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ABSTRACT

Five papers, three panels, and descriptions of six technical assistance workshops are presented from a national conference for sex equity coordinators and directors of vocational education for each state. The first section contains the five papers addressing the topics of vocational education's role in reindustrialization from one of five perspectives: historical, economic, planning, evaluation, and business. Papers focus on a history of working women, economic trends, critical issues in planning, developing criteria for sex equity programs, and economic/business recovery and education. A fact sheet following each paper summarizes major points. The second section includes three panel discussions expanding on two topics--planning and political perspectives. Titles of the first two are Implementing State Planning (4 presentations) and The Political Perspective on Reindustrialization (4 presentations). The third panel presents comments from the State Directors of Vocational Education. The third section presents descriptions of six technical assistance workshops (with information and materials used). Topics include mathematics as a basis of vocational education; promoting race and handicap equity; funding, implementing, and monitoring effective sex equity programs; survival strategies for postsecondary vocational education programs; political, social, and economic factors influencing progress of sex equity; and effective use of available state vocational education data. The agenda is appended. (YLB)

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Vocational Education: The Role of Women and Girls in the Reindustrialization of America

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CONFERENCE

Vocational Education: The Role of Women and Men in the Reindustrialization of America

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TABLE OF CONTENTS

Introduction i

MAIN SPEAKERS

Mary Aickin Rothschild
The Historical Perspective on Reindustrialization:
A HISTORY OF WOMEN AT WORK IN AMERICA 1

Leonard A. Lecht
The Economic Perspective on Reindustrialization:
SOME TRENDS FOR THE 1980s 19

Marie Mayor
The Planning Perspective for Vocational Equity:
SOME TRENDS FOR THE 1980s. 39

Matilda Butler
The Evaluation Perspective for Vocational Equity:
DEVELOPMENT OF CRITERIA FOR SEX EQUITY PROGRAMS. 47

Madeleine B. Hemmings
The Business Perspective on Reindustrialization:
ECONOMIC RECOVERY AND EDUCATION. 59

PANEL: IMPLEMENTING STATE PLANNING

Byrl N. Shoemaker
The Sex Equity Coordinator's Role in State Planning. . . .73

Nancy Smith Evans
Techniques for Infusing Sex Equity into Local
Vocational Education Programs. 74

Charlotte C. Carney
Policies and Services for Displaced Homemakers
in the State of Florida. 76

Donna K. Boben
Change Theory and Techniques for Institutionalizing
Sex Equity in Vocational Education 77

PANEL: THE POLITICAL PERSPECTIVE ON REINDUSTRIALIZATION

Robert Edwards
Problems and Predictions for Sex Equity
in Vocational Education. 79

Barbara Bitters
A Position Collage of the U.S. Congress, Advocacy
Groups, and Professional Associations. 82

Loydia Johnson Webber
The Role of Georgia's Vocational Education Programs In Meeting the Needs of Minorities and Women 86

Beverly Postlewaite
An Outline of Unresolved Issues. 89

PANEL: COMMENTS FROM THE STATE DIRECTORS OF VOCATIONAL EDUCATION

J.C. Levendowski. 91

Addison S. Hobbs. 93

Homer J. Halverson. 94

Samson Shigetomi. 94

Byrl N. Shoemaker 94

Robert Edwards. 95

Robert Carter 95

TECHNICAL ASSISTANCE WORKSHOPS

Kay Gilliland
Mathematics: The Key to Success in Vocational Education 101

Connie Gipson and Carol Sturgis
Promoting Race and Handicap Equity Through Vocational Education Sex Equity Programs 107

Deborah J. Dillon
How to Fund, Implement and Monitor Effective State Vocational Education Sex Equity Programs 115

Carol Eliason
Survival Strategies for Postsecondary Vocational Education Programs 121

Byrl N. Shoemaker
The Political, Social, and Economic Factors Affecting the Progress of Sex Equity 127

Byrl N. Shoemaker
The Effective Use of Available State Vocational Education Data. 131

APPENDIX A: Conference Agenda 135

APPENDIX B: Conference Participants and Speakers. 141

INTRODUCTION

The 1960's and 1970's stand as the watershed years for educational equity in the United States. Title VI of the Civil Rights Act of 1964 was a landmark in educational civil rights legislation, while Title IX of the 1972 Education Amendments and the Women's Educational Equity Act advanced the issues of sex equity and sex fairness. Title II of the 1976 Education Amendments directed considerable attention to sex bias and sex discrimination concerns. This historic legislation went beyond making sex discrimination in vocational education programs in states receiving Federal monies illegal. It mandated that states include programs and objectives within their annual and five-year plans to reduce sex stereotyping and that they appoint full-time State Sex Equity Coordinators. More importantly, it provided funding for these activities.

For the first time, the specific needs of women and girls for vocational education and job training were being addressed. The resulting Federal Vocational Education Rules and Regulations encouraged the development and implementation of sex-fair programs and resource materials, ranging from apprenticeships and work-study to industrial arts training and vocational education student organizations. Women were assured the opportunity to enroll in training programs for nontraditional occupations.

With the increasing number of individuals concerned with equity as well as the large number of sex-fair vocational education programs and materials, the Department of Education's Office of Vocational and Adult Education (OVAE) recognized a need for the development of a support system. Therefore, in 1979, it funded the Sex Equity in Vocational Education Project, authorizing the development of products and provision of information dissemination services designed to:

- Improve State Sex Equity Coordinator's access to information and materials on sex-equity programs, materials, and techniques;
- Increase awareness among the educational community regarding sex equity requirements and accomplishments in vocational education; and
- Improve mechanisms for mainstreaming concerns for sex equity.

The project is being conducted at Far West Laboratory for Educational Research and Development in association with two subcontractors, The National Center for Research in Vocational Education and the American Association of Community and Junior Colleges.

One activity designed to meet these project goals was a national conference entitled, "Vocational Education: Women and Men in the Reindustrialization of America." This conference was held for the sex equity coordinators and the

directors of vocational education from each state on April 8, 9, and 10 of 1981 in Columbus, Ohio, at the National Center for Research in Vocational Education.

The conference addressed the topic of vocational education's role in reindustrialization from six perspectives: historical, economic, planning, evaluation, political, and business. The first section of the Conference Proceedings consists of the papers presented by five speakers. Following each of these papers is a fact sheet that summarizes the major points from that speech.

In order to expand on two of these topics, planning and political, some of the sex equity coordinators and state directors of vocational education prepared and presented panel sessions. These panel presentations are included in the second section of this publication. The presentations of each speaker and panel member were transcribed and sent to them for approval. We would like to thank the speakers for the time they devoted to reviewing and revising these materials and also for their permission to publish them.

The third section of the Conference Proceedings consists of descriptions of the six technical assistance workshops that were offered at the conference. These summary descriptions are designed so that others may replicate these workshops in their states. Each workshop leader was generous in sharing the information and materials used in the workshops.

The Conference Proceedings is one of four products that we are producing during this project. Other materials include:

- Promising Programs for Sex-Fair Vocational Education — a documentation of 47 promising approaches to sex-fair vocational education for various target groups.

- Resources and References for Sex-Fair Vocational Education — an annotated compilation of sex-fair vocational education materials.

- Sex Equity Training Manuals — a series of eight manuals enabling users to conduct workshops on mainstreaming sex equity techniques and programs in the designated occupational areas (i.e., agriculture, business, trade and industry, distributive education, home economics, health, industrial arts, and technical education).

Staff from the Office for Vocational and Adult Education (OVAE) assisted us during the process of planning and holding the conference. In the early stages, Gail Minor Smith suggested a conference plan in which the sex equity coordinators could build stronger networks with each other, have an opportunity to increase positive relationships with their state directors of vocational education, be updated on the trends and future directions for vocational education, and receive technical assistance for professional improvement. Marie Mayor participated throughout the conference and was the presenter and facilitator for the panel that addressed the planning perspective for vocational equity. Harriet Medaris provided an update on recent materials and public

service announcements for displaced homemakers. And our project monitor, Paul Geib, discussed some of the changes taking place at OVAE in Washington as well as assisted with taking photographs.

During the conference, the staff members from the National Center for Research in Vocational Education and the American Association of Junior and Community Colleges were a seemingly tireless source of support, expertise, and assistance. They helped with arrangements, took notes, and facilitated at sessions. But all of these efforts would have been meaningless without the cooperative, spirited involvement of each participant who attended the conference in Columbus. The conference was successful because of the exchanges that occurred among those who were present.

* * * * * * * * *

The cover for this publication was designed by Chet Tanaka and includes artwork by Carol Ragle. Transcription of the tape recordings of the conference was done by James Bowie. The multiple tasks for production were expertly handled by the project's administrative assistant, Sharon Taylor. The entire project staff provided special assistance and advice throughout the process of completing this publication.

The Historical Perspective on Reindustrialization:

A HISTORY OF WOMEN AT WORK IN AMERICA

MARY AICKIN ROTHSCHILD, Ph.D.

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THE ISSUE IS WHETHER THEY GET PAID OR NOT

As an historian, I always firmly believe that we have to know our past to figure out the present and to go on to plan for a better future. I'm supposed to talk about women at work as an American case study. Of course, women have always worked; the issue is whether they get paid or not.

I restrained myself from wearing a T-shirt that I wear often which says every mother is a working mother. When I talk about women in the paid labor force, when I talk about women workers, I'm talking about women who are paid for work. But that shouldn't at any level distract us from the fact that women do work within the home or outside of the home, that the work they do within the home is productive work in an economic sense, that it allows for other members of the family to be producers, and that they reproduce the potential labor force of the next generation. When I talk about women workers, remember that I'm not going to keep saying: paid women workers in the labor force or women in labor force participation. But, this is because it gets very tedious, not because I believe women at home do not work.

Some of the things that you have to deal with when you think about women at work is the question of job evolution. And as vocational

education people you are concerned with the new evolution, with high technology, and how women and men are going to fit into that change in an equitable way. But I'm not going to address those problems. I am going to show you at least one pattern of job evolution in the past. Before I do anything more I want to give you a kind of an anthropological perspective on work patterns, women and men at work. Though I know you have a high sensitivity to this, I also want to talk about some linguistic issues. I want to show you the ways in which our language defines how we look at work in ways that we probably don't even consider, initially at least.

NOW THEY HAVE EVOLVED INTO WORDS THAT DON'T MEAN THE SAME THING

The particular linguistic issue I want to talk about is linguistic asymmetries which is a big phrase for words which do not equate by the sexes. They were initially words that meant the same thing, and now they have evolved into words that don't mean the same thing. An example would be "governor" and "governess." Initially, they were the same words; but they do not at all call to your mind the same thing when you talk about the governor and the governess. It's not the same issue.

The linguistic asymmetries I want you to think about are the ones pertaining specifically to work. When we say "women's work," "that's women's work," these phrases connote something to us which is not the same as "that's men's work" or "that's a man's job." Part of this linguistic asymmetry comes down to thinking about: I am just a housewife. That's what's behind the phrase, "I'm just a housewife; it's just housework." And then you have the kind of asymmetries which reflect socialization patterns in the society, usually said approvingly, such as, "She's a real career girl." You would never hear someone say, "He's a real career boy." And the reason they don't say he's a real career boy is because men are socialized in this country to work outside the home and women are not. The asymmetry for men is, "He's a real family man." And that's also usually said approvingly. He's a real family man in addition to everything else he does. You would, again, never say of a woman, "She's a real family woman." You would not hear these because women are expected to be family women, and men are expected to be workers.

The anthropological framework I want to use, and I really want you to think about this because it has tremendous implications for sex fairness in vocational education, is a series of corollaries. The first is, and this holds cross-culturally, in all societies men's and women's work has been at some level sex segregated. That holds across the boards. In all societies in all times, men's and women's work has been sex segregated. Now, often the work that men in one society do may be what women do in another society. But in each society there are men's jobs, and there are women's jobs. Secondly, and this holds for all but about two or three societies cross-culturally and over time, almost always women's work is valued less than men's work. And, in all advanced societies, that's true. Thirdly, women almost always have a lower social status than men. Again I can only think of one society in which women have had a really higher social status. So, women have lower social status than men. I'm not arguing causality, by the way. They may have a lower social status; and, therefore, their work is valued less. Two and three could be switched around; I'm just listing them. And, fourth, the closer men's and women's work becomes, the more integrated their work is, the higher the social status women have. So the more men's and women's work comes together, the more women and men are together in the work force, the higher the social status women have. And that again may be simply a reflection of the third point. So, anthropologically in other societies, not just in American society, work is enormously important in social definitions, in status roles, and power relationships within the society. And that is true for us as it is in other cultures.

WOMEN'S WORK IS VALUED LESS THAN MEN'S WORK

THE MORE INTEGRATED THEIR WORK IS, THE HIGHER THE SOCIAL STATUS

In the nineteenth century and in colonial America, we were pretty much a preindustrial society in which the home and family were both social units and economic units. In the basic family farm, the family is both a social unit and an economic unit. Women and men generally had quite highly sex-segregated work. Women cared for the chickens, did some dairy work (unless it was a dairy farm), did home gardening, all the child socialization, and all of the family support (weaving, spinning, cooking, sewing). Men did heavy work in the fields and generally all the work with large animals.

With the shift on the eastern seaboard in the early nineteenth century to industrialization in some areas, women began to be valued as a reserve labor force, particularly for textiles and clothing. Women, potentially at least, were able to work outside the home for pay -- generally in a home-related industry.

By 1830-50 in eastern cities, you had the beginning of the evolution of the middle-class lady. This evolution was in part due to the industrial revolution. The job of the middle-class lady was to consume tastefully and to raise children. This woman began to spend large amounts of time in housework, the raising of children, and beautifying the home. This was the time of the "cult of the true woman," who was pious, virtuous, domestic, and submissive. This middle-class woman began to spend more and more time doing home work even as the actual work in the home was being removed from the home by industry. At this time by the way, women's home work began to be devalued.

WE BEGAN TO HAVE MIDDLE-CLASS LEISURE

So you had the evolution of the middle-class lady. We've always had upper-class ladies. The independently wealthy have always had time to be leisured. What happened with the industrial revolution was that we began to have middle-class leisure or potential leisure. What happened with that potential leisure was that women devised more and better things to do in their homes. Even though the production in the home was being removed, expectations rose about, say, having to spend four hours a day with your child. Women spent time with their children instead of saying, "Get out of my way; I'm weaving." That was really what happened.

With this evolution of the middle-class lady, we also had the evolution of the working-class woman, who had a double day. She did all of her traditional work in the home, and she also worked for pay as a reserve worker. She always, as a reserve worker, got low pay and was seen as an episodic worker with no career intentions or skills.

Meanwhile, however, and that's one of the things that makes American history so interesting, as we continued to move west, we continued to reinvent the frontier. We kept creating small preindustrial families and farms. So, women continued to work in agriculture in quite small, typical, preindustrial

forms, which had nothing to do with agribusiness, well into the twentieth century. I might add, for some of you who are involved with agricultural vocational education, that there were substantial numbers of women who were not, as one tradition has it, dragged kicking and screaming into the West, moaning about their lost pianos. (Mind you, I would have been one of those people who moaned about a lost piano.) We had a substantial minority who went out and homesteaded on their own. New research, which is being done by women historians on homestead land settlings, has found as high as 20 percent of homesteaders in western states, like Colorado and Wyoming, were women. They filed their own claims, not simply as appendages of potential husbands but as independent settlers who lived on the farms by themselves. And, again, research is contradicting the stereotype which many of us have taught for a long time about the frontier woman who married immediately when her husband died. If he died before she did, which was not likely, the woman was unlikely to remarry. She ran the farm herself, and in economic terms, she ran it quite successfully.

ABOUT 20% OF HOMESTEADERS IN WESTERN STATES WERE WOMEN

In the nineteenth century, then, we had farm women as well as the evolving middle-class women and the evolving working-class women. Some of these farm women even owned their own farms and were working their own section. Now, let us test our anthropological theories. For the evolving middle-class woman, women's and men's work was being taken farther and farther apart because the men were in the paid labor force and the women were at home with much of their traditional role removed from the home. Therefore, women's work and their position in society should have fallen in terms of status; and that is true. The nineteenth century was the nadir for women's status in the United States. It was the time of the most severe and repressive legislation against women. It was also the time, of course, of the birth of the first feminist movement as a result of that low status.

THE 19TH CENTURY WAS THE NADIR FOR WOMEN'S STATUS

Until the Married Women's Property Acts, in the legal tradition in nineteenth century America previous to 1860 or 1870, women had no rights if they were married. "The man and

woman are one and that one is the husband" was the interpretation of the common law. A woman had no right to sue, be sued, own property, make wills, make contracts, even be tried for a crime committed if it was committed in the presence of her husband.

If I shot somebody in the presence of my husband in the nineteenth century, my husband would be tried for my crime. I was considered a minor in all ways. One of my students said, very quickly, to that: "What if you shot your husband; would he be tried for that?" And, I said: "That's a great question." But I didn't know what the answer was; So, I went back and looked it up. Although there were no cases in the United States of this happening under traditional common law, which dates back in this case to about the sixteenth century, the woman would have been tried for treason; it was a crime against the state. So much for domestic strife.

THE WOMAN WOULD HAVE BEEN TRIED FOR TREASON

A countertest of the anthropological theories in terms of women's work is farm and ranch women in the twentieth century. If the closeness of women's and men's work results in a higher status for women, we should find that twentieth century farm and ranch women had a higher self-esteem than the rest of women in American society and that they felt very strongly that they were doing good work. All of the studies that have been done of the self-concept and the status and roles of women on a farm in the twentieth century show that this is true. Farm women, in fact, did have a very strong and high sense of self-esteem and social status. And they understood very clearly their role in the community.

FARM WOMEN DID HAVE A VERY STRONG SENSE OF SELF-ESTEEM

I want to take a closer look at nineteenth century paid work industries for women. Then I'm going to contrast that view by starting with about 1890 and coming up to the present day.

The typical woman worker in the latter quarter of the nineteenth century was a domestic worker. She did not work in her own home; she worked in someone else's home, or she was a laundress. Seventy-five percent of paid women workers were domestics in one form or another. They were single, and they were young, and they worked in domestic work. For the 20 percent of women who

worked in industry, the majority worked in the garment industry. The next largest group worked in textiles, then food processing (with the beginning of the canning industry), shoe making, and cigar rolling. All of these, with the possible exception of cigar rolling, were traditional women's work in the home. Once this work was removed from the home, women followed it into the industrial setting. The only industrial area in which women were a majority was the garment trade. And that also was the only area where at the turn of the century there were substantial numbers of militant women organizing in unionization.

WOMEN FOLLOWED TRADITIONAL WORK INTO THE INDUSTRIAL SETTING

As a result of the Triangle Shirt Fire, we had the uprising of the 20,000. In three weeks' time, 20,000 garment workers walked out of the plants in New York City and formed the International Lady Garment Workers' Union, the ILGWU. At that time, the ILGWU was probably the single most militant industrial union. The craft unions during this period believed that women were unorganizable. So, women who wanted organization for higher pay were being kept out of craft unions at the turn of the century because they were not skilled workers. The beginning of the industrial union movement came with the ILGWU; it was largely composed of women in the garment trade but run by male union officers.

FEWER THAN 5% OF MARRIED WOMEN WORKED

It was unlikely that a married woman was working in the paid labor force during the late nineteenth century. Fewer than five percent of women worked. However, many of those married women who worked were missed in census counts over and over again. These women did take in boarders or laundry, and this work provided the margin for their families' making it in the late nineteenth century.

I want to talk about the specific demographics of the typical woman worker in 1890, the typical woman in 1890 (and there's a difference), and then the typical woman of 1980. You can begin to look at the way the demographics have changed, and we can think about the implications of those demographic changes for what you do in vocational education.

In 1890 the typical woman worker in the paid labor force was young, below the age of 25, single, an episodic worker. As an episodic

worker, she did not see herself as having a lifetime commitment to a job. She was working until she got married or working for pin money for a little independence. She did not have career plans. She was disproportionately Black and in the southwest, where I am from, disproportionately Chicana. Also, she was disproportionately immigrant or first generation immigrant. Native-born white women did not very often work — certainly not after they were 30. Of course, the average woman was not a native-born white in 1900.

That was the typical woman worker. The typical woman and her life cycle in 1890 was a little different. The typical woman was married. She had a husband who was the primary breadwinner, she had five to six children over her fertility span, and she worked in her home. She died within four years of her oldest child's becoming 18.

DIED WITHIN 4 YEARS OF HER OLDEST CHILD'S BECOMING 18

There is no time for a mid-life crisis if you are a typical woman in 1890. You get married; you have your kids; you die. And, you probably worked within your house. This has tremendous implications for the kinds of work we're doing now with displaced homemakers and with the question, "What do I do with the rest of my life even if I'm not displaced?" Women in 1890 didn't have those decisions to make. Just 90 years ago, the demographics of women's lives were very different than they are now.

In 1980, by contrast, the typical woman is married; she works full-time; she has a husband who works full-time; she has two children; and she somehow copes. And, what is becoming clearer, sort of coming out of the murk of the 1980 census, is that a substantial minority of women workers, up to 49 percent, are the sole support of themselves. That group includes single women, women who have never married, divorced women, and widowed women. That's a very high percentage. And, that may be the new difference for the '80's because certainly since 1945 that has not been the case. The typical woman worker has been married, and we can still say that; but, it's by two percent which doesn't make her all that typical.

UP TO 49% OF WOMEN WORKERS ARE THE SOLE SUPPORT OF THEMSELVES

by 1890, two times as many girls graduated from high school as did boys. Conversely, however, in 1890 two times as many men graduated from college as did women.

A VERY HIGHLY LITERATE POOL OF POTENTIAL WORKERS

While the lower-class, working-class, or lower middle-class girls graduated from high school, they did not have the money to go on to college. However, they formed a very highly literate pool of potential workers at a time that American business was increasing enormously. This was the time of trusts and what was going to become multinational corporations. These new businesses were growing in huge ways; they rationalized industry and formed interlocking directorates. They were beginning to produce incredible amounts of paper which increased the need for clerical workers.

This need existed at a time that we had a pool of potential workers, high school educated young women, who could work in this new clerical field. And this was a time when there were also technological changes in terms of actual business procedure or clerical procedure. It was also in confluence with the time when the structure of the family itself was changing. With urbanization it became increasingly burdensome to a family to have daughters at home who did not bring in money either to support themselves or the family. All of this came together to begin to transform the area of clerical work.

FACTORY WORK AT THAT TIME WAS VERY UNPLEASANT

From the point of view of women workers, clerical work was nice work. Factory work at that time was very unpleasant. Nineteenth-century textile factories or garment factories were hot, noisy, and dangerous. Young girls who went into textile work in the South at the age of six to ten often had a life expectancy of 12 to 18. They died from tuberculosis brought on by brown lung disease from cotton lint. Further, a survey was done of southern women textile workers last year. It showed that these workers' priority item for change in their profession still is better ventilation so they don't have to breathe so much lint.

As a parent, if you wanted your daughter to move up in the world, you wanted to keep her out of factory work if it was at all possible. Clerical work was seen as a real step up for striving lower middle-class and working-class women; and it was, in fact, much nicer work than factory

work. It was quiet; it was pleasant. You were in an office. It was in congruence with the role of middle-class women in the nineteenth century. That is, you were seen as a kind of help-meet. You were seen as a lady; you worked with individuals who treated you nicely.

Business needed all the help it could get, and women flocked into the clerical area. The old clerk role, that was 85% male in 1890, evolved as women moved into the role of clerical workers. The former male clerk role evolved into the role of manager. The clerk became a personnel manager, salesperson, market analyst, public relations person, or human engineer. Women, as they came into secretarial work, remained as secretaries; mobility in the clerical field died. As women became predominent, there was no more mobility. Men no longer went into an apprenticeship of clerical work; they simply came in as managers, as potential managers, or as management trainees.

MOBILITY IN THE CLERICAL FIELD DIED

With or without mobility, the independent working woman became a female type by the 1920's. She was the flapper, and she remained in the labor force and in a vision of American women workers throughout the twentieth century.

The number of women working in the paid labor force continued to grow so that by 1930 more than 50% of clerical workers were women. There were more women in office work than there were in factory work.

The biggest change with women in the paid labor force came with World War II. The average woman changed from being a woman who was at home with her children to a woman who had children but who also worked. World War II is important for two reasons. First, it brought so many women into the labor force. More than six million women worked by 1945; that is a 50% increase in the four-year period from 1941-1945. Secondly, and almost more importantly for those of you who are concerned with vocational education, for the first time in the history of women in the paid labor force, women during World War II proved that they could, in fact, do anything. While not all women could work in the steel yards of Pittsburgh, not all men could either. World War II was the first time that women worked in industrial work which was unrelated to women's traditional role in the home. It was the first time women

MORE THAN 6 MILLION WOMEN WORKED BY 1945

WOMEN WERE OUT OF TEXTILES AND INTO STEEL, AUTO, ELECTRICAL

were out of textiles and garments work and into steel, auto, electrical, rubber, airplanes. In addition, there was also an enormous increase in office work. Office workers alone increased two million in that four-year period. The only place in which there was a decrease in women workers was in the area of domestic and restaurant work.

Because women were in nontraditional industries, women's membership in unions went up enormously. This increase had a profound effect on how unions viewed women. They began to see women as less episodic workers and also as potential members. Women's union membership in 1941 was 800,000; by 1945 it was 3,000,000. That was a phenomenal increase in a four-year period. The reason for that increase was not simply that unions were organizing or that women were involved in some massive union campaign; it was that women finally got into industries which were unionized: rubber, steel, airplanes, auto.

If we go back to the anthropological theories, we should analyze that men's and women's jobs came closer together during the war, since, for the first time in the history of America, women were in every occupational area. Therefore, their status should have been higher than ever. That, in fact, was true. Women's status has only recently been higher than it was during the war years from 1941-1945.

WOMEN'S STATUS HAS ONLY RECENTLY BEEN HIGHER THAN DURING THE WAR

The unfortunate thing about the war years in terms of women working is that the war period reinforced the concept of women as a reserve labor force whose interests in working were only episodic. In this case the episode was "the country needs you," rather than "I need something before I get married." The government supported women workers during the war in both real and psychic ways. The government funded day care centers, which were never adequate but which at least were a commitment of public resources. For women in defense industries, birth control was supplied by the government for the first time. But in addition to these real substantive supports, the government also set up a tremendous psychological campaign to encourage women to work. It stressed all the important things women were doing for the country.

Then in 1945 the government turned that campaign all on its head and made movies to get women to quit working and go home. There is an absolutely

wonderful film that has just been released (by Clarity Educational Productions, Inc., P.O. Box 315, Franklin Lakes, NJ 07417) entitled Rosie the Riveter. I would recommend it to all of you to use at various times when you talk about women in nontraditional jobs. The film grew out of an oral history project that NEH funded. Project staff interviewed hundreds of women who worked during the war and videotaped four or six multi-ethnic women. They've interspersed the interviews with footage of plants and workers during the war and also with footage of films that were made to encourage women into and then out of the war effort.

THE DEMOGRAPHICS OF THE TYPICAL WORKER CHANGED

By the end of the war, this very real support from the government had changed the demographics of the typical worker. By 1945, the typical woman worker was 35 years old and married. Many had children. After the war, women were laid off, but they did not stay out of the work force. Instead, they took over lower-status, lower-paid, traditional women's jobs. If the anthropological perspective holds, women's status should have declined after the war because men's and women's work was becoming farther apart. And, in fact, that's what happened.

Women took over what's now called the pink collar ghetto, especially clerical work. They became the invisible women workers of the 1950's. We always believed, until historians took a look at the census data from the 1950's and 1960's, that women followed the popular media image of working during the war and then gladly retiring to the suburbs to have children in a happy nuclear family. While that was the experience of many women, the fact is that by 1949 only 300,000 fewer women were working in the paid labor force than were working in 1945. Although some younger women came into the labor force, the fact is that extraordinary numbers of women remained in the labor force and simply went back to traditional women's jobs like waitressing and clerical work.

EXTRAORDINARY NUMBERS OF WOMEN REMAINED IN THE LABOR FORCE

Even for the women who did go home, many left only for relatively short periods of time and came back into the paid labor force in traditional women's jobs, which were lower in status and pay. In addition to the low pay and status, many women of the '50's believed that they were the only ones who were working. Part of the reason the media hype was so effective was that working

women believed they were the only ones who were not like Dick and Jane's mother, always there with Sally and Spot to give cookies to the children when they got home. There was a lot of guilt and a lot of pain for those women workers in the late '40's and throughout the '50's.

Unfortunately, vocational education fed right into that traditional image. It prepared women to work by presenting them only traditional women's jobs. It prepared them by continually assuming that they were only episodic workers who would want skills to "fall back on" if their marriages didn't work out or if their husbands were suddenly unemployed. Vocational education also fell into training women for nonunionized jobs.

WOMEN'S SALARIES MADE THE DIFFERENCE

The reason that women continued working throughout the '50's and '60's is that their families needed the money. Women's salaries made the difference between making or not making a middle-class life, which became redefined after the war. Families believed they should have single-family dwellings, which were helped by a public policy of V.A. and F.H.A. loans. They also believed that their children deserved to go to college, even if it was a public college. However, since it is no longer easy to get into the housing market and is no longer clear that people need a college education, this post-war definition of the middle class may be changing.

Also, women increasingly needed to support their own households. By the late '70's we began a new demographic shift, which I mentioned earlier, with 49% of working women now being single. Many of these women have been married, but their marriages are now over, in the main.

Changes in this picture began when society began to appraise the numbers of women working and the reality of their experiences. The big changes came in the early 1960's with the Women's Commission on the Status of Women and the new women's movement. These forces fostered a series of legislation to bring equity to women and minority workers. With that increasing awareness, there was a beginning of an effort to deal with the pain and loneliness and division women in the paid labor force have experienced.

I'm sure you'll have lots of ideas on the question of reindustrialization and what's next during this conference. There have been many real changes,

through not enough. One of my favorite examples, in terms of changes, is from a letter to Ms magazine. The letter said that this woman was at a four-way stop; and she realized there was a taxi, a phone repair car, a delivery truck, and a police car, all of which were driven by women. They all started honking and went wild when they realized they were all female. Ten years ago that would never have happened. And those kinds of changes are very real.

TEN YEARS AGO THAT WOULD NEVER HAVE HAPPENED

But, there are also many changes we need to go through in terms of implementation of laws, like Title IX and the Vocational Education Amendments, and changes in perception about men and women workers. I'll just give you a couple of examples from a little exercise called: "He Works, She Works, But What Different Impressions They Make." The family picture is on his desk — a solid responsible family man; the family picture is on her desk — her family will come before her career. He's talking with his co-worker — he must be discussing the latest deal; she's talking with her co-workers — she must be gossiping. He's not at his desk — he must be at a meeting; she's not at her desk — she must be in the ladies' room. He's having lunch with his boss — he is on his way up; she's having lunch with her boss — she must be having an affair. Those sorts of differences and impressions are the kinds of changes in perception that we need to work on.

The 1980's work force issues concerning women that, from my perspective, are most important are the issues of flextime and shared jobs. I think they are increasingly important if, in fact, we want to get men and women into nontraditional jobs. A second issue is the evolution of high-tech jobs and work in the home. For instance, companies like Control Data are increasingly moving high technology computer programming into homes. They let women and men work on their own time and their own pay rate. It is a kind of piece work situation in the home at quite high pay levels. This evolution of women and men, both working in nontraditional jobs, if the anthropological perspective is correct, should bring up women's status within the society.

MOVING HIGH TECHNOLOGY COMPUTER PROGRAMMING INTO HOMES

Although I am somewhat discouraged, it is most important that we work to change and upgrade all of women's work. The way to do that is to hit at the issue of comparable pay for comparable work. And that, as you know, is a huge Pandora's box of

issues which is beginning to be addressed in many states and many cities. The city of Phoenix did a comparable pay for comparable work study which has sat on the shelves ever since it was done. When all the jobs were rated on a management scale that they devised, the study found that the salary level of the city of Phoenix would have to be increased three times to pay women what they were worth in terms of the job qualifications that are required. For instance, a nurse with 14.2 years of education earns 5.8% less than a delivery person who doesn't have to have an eighth-grade education. A secretary with 13.2 years of education makes 38% less than a truck driver who has to have eight years of education. We have to meet head-on these issues of feminization of the labor force and find ways of upgrading women's traditional jobs. It's not enough to think that we'll really change women's status in the paid labor force by simply getting some women and some men into nontraditional jobs — not when 80% of women workers work in highly sex-segregated jobs.

NOT SIMPLY A MATTER OF MORE MONEY OR MORE STATUS

I'd like to close with one verse from a poem by Marge Piercy. It's a poem called, "To Be Of Use." It talks about the issue of work, the importance of work, and why changing women's work is not simply a matter of more money or more status. It talks about the social definitions of work and the reason they're so important in individual terms.

> The work of the world is common as mud.
> Botched, it smears the hands, crumbles
> to dust.
> But the thing worth doing well done
> Has a shape that satisfies,
> Clean and evident.
> Greek amphoras for wine or oil
> Hope vases that held corn
> Are put in museums.
> But you know they were made to be used.
> The pitcher cries for water to carry
> And a person for work that is real.

ALL PEOPLE DESERVE EDUCATION FOR REAL WORK

That's the issue behind changing visions of women and men in the work force. I would recommend you to seriously consider reindustrialization and what it means for men and women. All people deserve education for real work, and all people deserve to do real work. That's true, particularly, in the case of women; and we need to do better by our visions of women's needs and their ability to do real work.

Fact Sheet

A HISTORY OF WOMEN AT WORK IN AMERICA
by Mary Rothschild
Conference Proceedings, April 1981

Four anthropological tenets: (1) in all societies work has been sex segregated; (2) in most preindustrial and all advanced societies, women's work is valued less than men's work; (3) women almost always have a lower social status than men; (4) the more integrated men's and women's work becomes, the higher the social status women have.

In 19th century preindustrial society, the home and family are both the social and economic unit (e.g., the family farm). The Industrial Revolution in America develops a reserve labor force of women for home-related industries such as textiles, which are now produced in factories outside the home.

Between 1830-1850 on the eastern seaboard, home work becomes devalued and middle class ladies evolve who tastefully consume goods and raise children. Married Women Property Acts begin to change the no rights/no responsibilities status of married women, starting in 1860 and continuing until very recent times.

During 1857-1900: less than 5% of married women work outside the home, but they do take in boarders and laundry to supplement family incomes; 75% of paid female workers are domestics; 20% work in garment, textile, food processing, shoemaking, and cigar rolling industries.

In 1890, 85% of clerical workers are men and clerical work is a way of attaining upward mobility. By 1930 more than 50% of the clerical workers are women; for the first time more women are doing clerical work than factory work.

In 1890 a working-class family tends to keep daughters in high school while sons leave high school to earn good wages. Two times as many females as males graduate from high school; however, two times as many males as females graduate from college. High school educated women provide a pool of educated clerical workers for businesses. Office work is an immense improvement over factory work. In the Southern textile industries a female of 6-10 years often dies of tuberculosis or lung disease from lint by the time she becomes 12-18 years old.

The 1920s establish the image of the independent working woman, the flapper.

During World War II, six million women are in the work force. Many are doing work that is not related to the home and are proving that there are some women who can do any job. Female office workers increase to 2 million; female union membership rises from 500,000 in 1941 to 3 million in 1945. The status of women during the war years rises; however, women are considered to be episodic workers. The U.S. government provides birth control for women in defense industries only and some child care facilities.

After the war the public believes women have returned to their homes, but only 300,000 fewer women were working in 1949 than in 1945.

During the 1950s women have lower status, lower pay, traditional jobs, and become "invisible." They work in pink-collar ghettos to aid in maintaining a middle-class lifestyle or to support their own households.

By the 1960s social and legislative efforts were changing the perceptions and laws. The 1960s present issues such as flextime, shared jobs, nontraditional jobs, and comparable pay for comparable work.

The typical worker: in 1890 is under 25 years, single, an episodic worker, and disproportionately non-white or immigrant. The typical woman is married, has 5-6 children, and dies within four years of her eldest child's coming of age. In 1945 the typical woman worker is older, 35 years, married, and has children. In 1980 she is married (but 49% are not married), works full-time, and has 2 children. Of women who work, 49% are totally self-supporting.

The Economic Perspective on Reindustrialization:

SOME TRENDS FOR THE 1980s

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Thank you. My own feeling is that after lunch nobody really is in the mood to sit back passively for a formal presentation; so, feel free to interrupt, to disagree, to take issue, or to expound as you see fit. But to begin, I feel a little bit like a wolf in sheep's clothing or a sheep in wolf's clothing. I'm not sure which, partially because I'm an economist (not an educator) and partially because I'm dealing with a subject that seems to encompass the world. It encompasses both women and men, namely everybody, and it also encompasses reindustrialization. These include a great many sins, and I'm not sure just where we draw the limits.

THE REAL ISSUE HERE IS A QUESTION OF PLANNING

I think the real issue here is a question of planning. Now planning means different things to different people. In vocational education, for a long time, planning has been identified with State Plans. And State Plans are a lot of numbers which you either produce, or you make up, or you get one way or another. You've got to have them in order to get money, usually from Uncle Sam. If the numbers are there, fine; if the numbers are not available, you use your creative imagination.

Some of the most creative imaginations I've seen in statistics have been in the projections of occupational supply and demand in the annual plans submitted to the Office of Education. I don't mean planning in that sense.

WHAT'S LIKELY TO INFLUENCE US?

When I think of planning, I think of looking ahead, "looking down the pike." I ask, "What's likely to influence us or what kinds of things ought we worry about now because they will probably affect what we're doing in the next five or ten years." And all kinds of things are coming down the pike -- good, bad, and indifferent.

I propose to talk about three planning sources and then to see what relationship they have, if any, to the question of sex equity. One we can call the demographic profile. Another source is regional economic changes. A third is the important question of renewing the industrial base. All three of these issues relate to one another in an important way, and they relate to vocational education. They set challenges for the vocational education system to respond to in the 1980's. The kind of vocational education system we have in 1990 will depend to a considerable extent on how the systems fit in with the demographic changes, with the regional shifts that are taking place, and with the emphasis on building up the industrial strength of the economy.

Let's look first at the demographic changes. I'm sure you've been hearing about them, particularly about two of them. There will be many fewer younger people in the labor force in the 1980's. This is about as safe a prediction or projection as one can make because the young people who will be entering the labor force between now and 1990 have already been born; they're in school; they're growing up; eventually they'll graduate; and most of them will enter the labor force. This is the case because the birth rate started falling sharply after 1965. That means about 1985 and thereafter should be a marvelous time for a young person to look for a job. If the young people who are now having trouble finding a job could keep their age from changing for the next ten years, they'd be at a much better economic position.

A MARVELOUS TIME FOR A YOUNG PERSON TO LOOK FOR A JOB

We have all heard about the second demographic change: the influx of women into the labor force. You have a special interest in this issue because it is your subject of discussion. This influx will

continue, and it is very important. According to most people who have been looking at the numbers, about two-thirds of the labor force increase in the 1980's will consist of women.

This leaves a third change of roughly equivalent importance that hasn't gotten very much attention. This has been the tendency for older people, and particularly older men, to retire at an earlier and earlier age. I believe this tendency will reverse itself with many important implications for vocational education. Now the tendency for men to retire in such great numbers has been a recent development. If we go back to shortly after World War II, say to 1949, we would have found that close to half of all the men who were 65 and over were in the labor force. They were either working or looking for work. The ones that were not in the labor force either had health problems, or disability, or they had wealthy wives. Can you guess what proportion of those men, currently, are still in the labor force?

THE TENDENCY TO RETIRE IN SUCH GREAT NUMBERS

Audience: None.

Not quite; it's about a fifth. In other words, currently about four out of every five men 65 and over aren't either working or looking for work any more, and they don't all have wealthy wives either. This is certainly a fundamental social change. There are about five million older men who would have been working in 1949 who are retired now. What happened? Why this social change where at sixty-five or earlier these people are supposed to withdraw from whatever they're doing and do something called retiring? I think the underlying idea was that everybody gained from this development. We believed that old people just loved to retire and, furthermore, that young people gained. The retirement of older persons opened up avenues of promotion or jobs for younger persons. Furthermore, companies gained because it was said, for some reason, that old people were less productive than young people.

THE EMPHASIS WILL NO LONGER BE ON RETIRING

I venture that during the next ten years these numbers are going to turn around; and the emphasis will no longer be on retiring, but on working. We'll be looking for ways and means to keep older people in the labor force rather than to push them out with either a gold watch or an inadequate pension. Anybody care to venture a reason why? Social security and social security taxes are one consideration. Currently the biggest item in the federal

government's budget is for programs related to retirement and income benefits for older people. This isn't to say that this development is a bad idea or a bad priority, but it's become a very important one. Let's look at spending for national defense as a basis for comparison. In 1969 the federal government was spending about 50 billion dollars more for national defense than for all the programs related to old people. By 1979 what do you think had happened? It has just about reversed. We were now spending fifty billion dollars more on all the programs benefiting old people than we were spending for national defense. This may be an excellent use of our money. But it does illustrate a far-reaching shift in priorities.

SPENDING FOR NATIONAL DEFENSE AND PROGRAMS FOR OLD PEOPLE JUST ABOUT REVERSED

If this trend continues, we will be spending a large share of the federal budget on programs related to old people, and with it social security taxes are bound to go up. There is a very simple demographic reason: people are living longer now; the average age after 65 encompasses a broader span of years. Assuming the same retirement age, by 1990 we could have some six or seven million more old people who would be eligible to draw pensions. By the year 2020 the United States could have the same proportion of people 65 and over as Florida does today (16%). In other words, by the year 2020 the baby boom generation of the 1950's and early 1960's will start retiring. And when they retire, there may be half as many retirees as workers.

INFLATION HAS A VERY DECIDED BEARING ON A PERSON'S DECISION TO RETIRE

There's another reason why I don't think the situation will continue, and that's inflation. Inflation has a very decided bearing on a person's decision to retire, particularly if you're a teacher depending on a state or local government pension or if you have a private pension from your employer. Social security pensions are indexed to the Consumer Price Index. So far, the federal government has continued indexing. Every time the Consumer Price Index goes up by one percent, so do your social security benefits. But what about your teachers' pensions? How many of you have indexed teachers' pensions -- pensions that automatically go up with the Consumer Price Index? Anybody have such a pension? If so, you're lucky. And the same thing is true of company private pensions. They are very seldom indexed.

Let's say that you retired in 1980, and you started out with a fairly adequate pension. We'll use a good round number: $1000 a month. Assume the rate of inflation continues at an average of 10% a year. That's a high rate of inflation, but it's a little bit less than what we've had in the past few years. At the end of five years, by 1985, what's the purchasing power of that $1000? Anybody care to venture a guess?

Audience: $500.

$1000 WOULD BE WORTH ONLY $240 AT THE END OF 15 YEARS

It's slightly more optimistic than that. Within five years that pension would have lost three-eights of it's purchasing power. It would be worth only $620 in dollars at 1980 purchasing power. At the end of fifteen years, do you know how much that pension is worth? Did I hear someone say $300? Good guess -- actually worth a little less. It's worth $240 in 1980 dollars. So at the end of 15 years that pension has lost over 75% of its value. On that kind of basis, what do you think happens to people's decision to retire? They say: "We can't afford it; we're going to put off retirement a couple of years. We'll build up that pension reserve and see what happens to inflation." That's by no means an irrational response to inflation.

Then, there's something else. The Age Discrimination Act was amended in 1978 to outlaw mandatory retirement for most people before age 70. The practical effect of the change, so far, hasn't been very substantial. I think the long-term effects and the symbolic effects are likely to be quite important. The change symbolizes that the weight of government is shifting from getting people to retire at an earlier and earlier age to doing things to keep them in the labor force; and that thrust will show up in a great many different ways.

SO FAR THIS HAS HIT VOCATIONAL EDUCATION LESS

But then the question comes, "But what bearing does all this have for vocational education, if any?" I think it has a great deal of bearing. For one thing, there's a kind of scissors effect here. There will be fewer young people in the traditional school ages. So far, this has hit vocational education less than the regular academic programs because the proportion of young people enrolling in vocational education, in most places, has gone up. But soon those shifts will have been made. Then if vocational education wishes to

keep its market and to keep its funding, where will it get its students? All the adult population will be a potential source. One important group of potential students will be women, particularly women seeking new job skills, or women returning to the labor force after the children are off to school. Another will be older persons, both men and women. These are two important new sources of students, and vocational education is well situated to reach these groups if it makes certain changes.

Vocational education has had a great deal of experience in adult and continuing education which can provide a basis for appealing to these groups. But it isn't as easy as simply setting up courses and programs. For one thing, older people need a different kind of counseling. They've had life experience and work experience. They tend to be less interested in credentials and degrees. They often want to make some kind of career change. They want to get out of the rat race, say, of being a manager or a teacher, and get some other job that they feel involves less pressure, even if it may pay less. Or they may want more flexible hours, or what have you. Or they want to upgrade obsolete skills, because old people frequently are employed in declining industries and occupations. So there is an important need here. Much of the new audience for vocational education in 1990, looking at it from a labor market perspective, will be with older people and women, two groups who share similar interests and similar needs.

OLD PEOPLE FREQUENTLY ARE EMPLOYED IN DECLINING OCCUPATIONS

Well, that brings us to topic number two: regional shifts. These changes are very important, and they have generated a great deal of heat and emotion. The Commission on the National Agenda released a report several months ago. It proposed a program that looked for a solution to unemployment by encouraging regional shifts from the snow belt to the sun belt. What did it propose; anybody happen to recall?

ENCOURAGING REGIONAL SHIFTS FROM THE SNOW BELT TO THE SUN BELT

Audience: Go south.

In general the advice was go south young man or young woman. The Commission asked why the government was spending money to create jobs in places like Detroit, New York, Chicago, St. Louis, Boston, Baltimore, Columbus, when it ought to encourage persons to move to where the jobs are

in placed like Scottsdale, Miami Beach, Houston, San Diego, etc. I think you know in which parts of the country this suggestion went down better and which parts didn't like it. Anyway, that shift is there, along with the emotion; and it is likely to continue. There has been a significant migration of young people from the northern and mid-western manufacturing centers to places in the south, the southwest, and the Pacific. The people who typically migrate are younger (their median age is 23), they're better educated, and they're at least high school graduates. This migration has been taking place at the same time that jobs are not only moving to other regions, but jobs are moving from the central city to the suburbs. This is all old hat to you I'm sure, and you've heard it many times.

THE MEDIAN AGE FOR PEOPLE WHO MIGRATE IS 23

But there is an important role for vocational education here and an adaptation to change. For one thing, planning in vocational education has tended to identify the labor market for its graduates with the local political unit of which the vocational education agency is a part. If it is a city school system, then the vocational education system looks at jobs in the city. If it's a state agency, it looks at jobs in the state. This may be fine politically, but it makes little sense in terms of the labor markets involved or in terms of career opportunities for the students. The relevant labor market, in most large cities, isn't the city; it's the whole metropolitan area. It's frequently the whole regional area. In a city like New York. for instance, the labor market area includes northern New Jersey, a good part of Long Island, southern Connecticut, and part of up-state New York, The jobs that should be taken into account in planning are the jobs in those areas. Aside from that, frequently the best guidance counseling you might give a young high school graduate, say, in Detroit, is to do what?

Audience: Go south.

Not simply to leave the city, but to prepare her, say, for a good job in an occupation in which there are many shortages in places like Texas, California, Florida, or Arizona. Now will that get you regarded locally as a good patriot? It may not; I don't know. But for more and more occupations, particularly skilled occupations, the relevant labor market is a regional or national one.

THE RELEVANT LABOR MARKET IS A REGIONAL OR NATIONAL ONE

Audience: I don't know if it's a problem in other states, but in rural states we can't encourage kids to go more than fifteen miles away. We can train a kid in one town for a CETA position, for instance, that pays $10 an hour. But if it means traveling more than fifteen miles, they won't do it.

They're going to be staying in that local labor market. But are there jobs for them?

Audience: At $3 an hour; that's what they wind up with.

If this is their choice, fine. I'm thinking of what has happened to places like Detroit. After each business cycle in Detroit ever since the end of World War II, the automobile industry has recovered. But the number of jobs in the automobile industry, when it recovers, will have many many fewer jobs. The automobile industry is substituting complex technology for people; and this is perhaps the only way it can keep its costs down and meet the competition from abroad, especially Japan. Many people, who at an earlier day would have worked in the automobile factories, will no longer by working there. It makes no sense for them to stay in a place where there are few jobs; whereas in many other places, the problem is shortages of labor.

IN MANY OTHER PLACES THE PROBLEM IS SHORTAGES OF LABOR

More fundamentally, I think it cuts both ways. I think vocational education has an important role, both in the rapidly growing areas and in the more slowly growing areas, other than simply telling people to move. In the rapidly growing areas, labor market shortages are one of the barriers to growth. What many of the states like the Carolinas or Oklahoma have done is to make use of resources like vocational education and CETA to attract employers to their state. In other words, the vocational education system had fitted in well with state and local economic development programs. The state of South Carolina, for instance, has a separate technical education system. If you were a manufacturer, say, in Europe or maybe in New York, the state development agencies would invite you to move down to South Carolina. They would offer to give you a tax abatement plus cheap power and cheap land. They would ask how many people you would need, with what skills, and when. Then the technical education system would train them for you.

A TAX ABATEMENT PLUS CHEAP POWER AND CHEAP LAND

This is one way of attracting industry, and, of course, it made occupation training an effective part of the states' economic development programs.

VOCATIONAL EDUCATION HAS A FUNCTION OTHER THAN EXPORTING PEOPLE

But in the less rapidly growing areas, vocational education also has a function other than exporting people. Almost all of those areas have some good growth potential. To go to the one I know best, namely New York City, in Manhattan, the central business district is in a state of high boom. It is difficult to get into a restaurant or a theatre. If you move to Manhattan and want a modest apartment, if you can find one, say, a little one-and-a-half room apartment, do you know what you'll be paying rent? If you're lucky you'll be getting something for about $700-$800 a month. If you want a little more space, a two-bedroom apartment, you'll probably be paying $1200 or $1300 a month. And if you're thinking of renting an office on Park Avenue or Madison Avenue, you can probably find some attractive space for about $50 to $75 per square foot. These are the signs of a boom. Certain things are booming; New York City is again becoming a great world city and the nation's greatest post-industrial society metropolis.

JOBS THAT FLOURISH IN A POST-INDUSTRIAL SOCIETY ARE DOING WELL IN NYC

All the jobs that flourish in a post-industrial society are doing well in New York City. Occupations that are based on knowledge, on education, and on specialized training are doing well. If you know something about banking or finance, or advertising, or neurosurgery, or data processing, or how to run a word processor or how, let's say, to help set up a t.v. program, then the labor market will be in your favor. But then there's a large population that doesn't have the skills that fit in with those jobs; and the big task, the very difficult task of the educational system in New York, is to take the people who don't have the skills in the field that are growing and see that they get those skills. Right now, would you guess, where do most of the managers, professionals, salesmen, and skilled workers who work in this New York central business district live?

Audience: Suburbia.

Many live in suburbia, and they commute in and commute back on railroads that seldom make it on time. Vocational education can help more New Yorkers to obtain and hold those jobs. Some of

the companies that move out of the slow-growth areas move because they can't get the specialized people they need. Even in New York there have been reports of a shortage of machinists, tool-and-die workers, secretaries that know the English language, and people skilled as aircraft mechanics. Vocational education has a role there in helping to keep these companies from moving by providing them with the specialized labor.

Audience: Employers may say there is no skilled labor force in areas such as Maine; but actually, they move for cheaper labor and non-unionized labor.

That is frequently happening, but I don't think that's the whole story. Other reasons why some companies are moving out of big northeastern cities are the high cost of living, the difficulty in getting management, the reluctance of middle management to relocate, and the fact that managers didn't like the local school system so companies had to increase their salaries sufficiently to pay the price of a private school. Now the gap between the productivity of the labor force in northern cities and that of other parts of the country has narrowed.

NOW THE GAP BETWEEN PRODUCTIVITY IN THE NORTH AND OTHER PARTS HAS NARROWED

Audience: Part of the difference in the level of productivity has to do with working conditions and subsequent physical problems. For example, in shoe shops many women who do manual stitching and develop tendonitis because of the repetitive hand movements. This ailment lowers their productivity; furthermore, they get paid by piece work so their incomes are reduced. Maine has lost many firms lately that are owned by out of state corporations. They made their decision at corporate headquarters and did not base it on a sense of responsibility to the community within which they operate. I think my question is bigger than Maine, and I think it's bigger than the United States. How are we going to cope with a situation where the work is given to underdeveloped countries because people work for 6 or 30 cents an hour? How do we cope with that? That is a very pervasive problem, and I think those kinds of big issues are going to have to be dealt with very realistically. A lot of them are being

brushed under the table. A lot of these problems are being pushed on education at the local level; the public says we're not training the kids in the proper skills and work habits and those kinds of things. I live in a very poor state. Next to Maine and Mississippi, Vermont is the third poorest of the states, and we hear these arguments all the time. I think this problem is much bigger than those of us sitting here in this room. And I think that this business of American productivity is a real joke because those corporations are into dollar signs. Period.

Sure there are much bigger problems than vocational education or education, but they impact on the educational system. What vocational education does, how it responds to these problems, will have a great deal of bearing on what happens to vocational education in the next ten years. We're really anticipating our next subject here and that's this whole business of the new industrial age. Now I'm not sure what terms like reindustrialization mean. To some extent they're buzz words, but I think they have some significance.

AUTOS, STEEL, RUBBER, APPAREL ARE LOSING EMPLOYMENT

The declining areas in our country are the old manufacturing centers and the railroads. Automobiles, steel, rubber, apparel -- the old factory industries of the United States -- are the ones that are losing employment. They're losing production partially to overseas competitors and partially because of shifts within the United States. Dallas, for instance, was formerly a distribution point for the ladies' garment industries. The garments were made in New York. Now the companies in Texas produce their own garments and export them to New York. Many men's slacks, like the Haggar slacks that are such great bargains, are made in San Antonio.

SHIFTED MUCH OF THE LESS-SKILLED MANUFACTURING TO DEVELOPING NATIONS

Mention was made of the multinationals. One of the big developments is that multinational corporations have shifted much of the less-skilled manufacturing to what you might call export platforms in developing nations. And these are countries like Korea, Taiwan, Mexico. I understand that the world car we have been reading about will include components made in Spain, Brazil, Mexico, and maybe a few other places as well. We now hear this about the automobile industry; and

we've been hearing it about the garment industry for a long time. What's going to happen here, I think, is going to continue.

LESS-SKILLED MANUFACTURING JOBS WILL SIMPLY DISAPPEAR

Many of the less-skilled manufacturing jobs will simply disappear in the United States. In an advanced capitalist country with strong unions and fringe benefits, these jobs have become so costly that they are either subsidized through tariffs on imports or they are lost to foreign competition. In many other areas, jobs will continue to exist because we'll raise productivity through the use of complex technology.

Much of what we've talked about as robotization or reindustrialization is an attempt to compensate for high-cost labor. By making use of highly complex technology, businesses substitute technology for labor and increase productivity. And this takes many forms. Many of them involve or are related to automation and the use of computers. Many are simply extensions of the old mechanization. You may have seen the movie Modern Times with Charlie Chaplin. Many of the operations that Chaplin performed in that movie are now performed by robots, often computerized robots. Now robots don't look like people. They are not people with little electric arms. But K-Car bodies, for instance, are painted and sprayed by robots. I understand the X-Cars are or will be.

But which country do you think uses the most robots in the world? Japan. And one of the theories, which no longer has much validity, is that Japan is beating us in competition because they have cheap labor. They don't have cheap labor; their labor is becoming expensive. And they are not labor-intensive; they have many of the world's high-technology industrial installations. Right now, for instance, over half of all industrial robots in use are in Japan.

OVER HALF OF ALL THE INDUSTRIAL ROBOTS IN USE ARE IN JAPAN

Audience: But, unfortunately, Japan is more labor-intensive than the United States.

Proportionately they still are, but the degree of difference is narrowing rapidly.

Audience: The level of productivity has a lot to do with how they use their workers. They have a very different management style. We thought that the

difference in productivity was because of the cultural background of the Japanese people. But they opened a Datsun plant in southern California that is staffed with American employees, and their productivity is even higher than any other Datsun outfit in Japan. Productivity has to do with the management style as opposed to improving high technology.

THE TEMPTATION TO PROTECT THEIR JOBS IS MUCH LESS

I suspect you're right. If people are guaranteed employment, the temptation to resort to making work roles that protect their jobs is much less. I don't mean we should mechanically ape the Japanese any more than they can ape us. But at least we've learned a great many things, and one is an emphasis on quality control.

One of the other things that this high technology will be doing will be to increase emphasis on quality control. And we've been losing there. To take one instance that I happened to run across recently, about seven or eight years ago the Japanese exported 20 million dollars worth of silicon chips to the United States. As of a couple of years ago they were exporting 250 million dollars worth. It wasn't that their price was particularly cheaper, but the rejection rate among the Japanese silicon chips was a small fraction of the same rate for the U.S. chips. Now there's nothing inevitable about this, but it shows important issues of quality control. The same thing is true of automobiles. One of the reasons for the losses in American automobiles has been high fuel consumption. Another one has been poor quality control.

THE REJECTION RATE WAS A SMALL FRACTION OF THE RATE FOR THE U.S.

Audience: Quality control goes back to management style because when you talk about quality control you talk about workmanship: how workers are perceiving their jobs and how well they're doing on their jobs. I understand that in Japan, for example, there is much more of a decision-making process that the workers get involved in. And I think that once we start looking at these issues in this country, we can improve quality.

I think we have a whole complex of issues here. Part of them are high technology issues, part involve worker participation in decision-making, another part is work guarantees. Still another

issue is an emphasis placed by some companies on next year's profits rather than on long-term growth. I don't know how many of you recognize the name of Thorstein Veblen. Veblen was kind of a heterodox American economist, also a very colorful character, who lived and wrote in the early 1900's. And Veblen made the distinction between what he called making goods and making money. He argued that they were not necessarily the same thing. What has happened with much of American industry is that we have become very skilled at making money. And making money is important. But we have become considerably less skilled at making goods and in tying the making of money to making goods.

WE HAVE BECOME VERY SKILLED AT MAKING MONEY

> *Audience: In working with vocational educators I have found that in their planning and in their priorities the budgets, and the buildings, and the equipment are so high a priority that they forget about the people and the process. Not that we pay total attention to the process level. But I think we're moving to a situation in which we pay total attention to the task level. We cannot be totally money-oriented, profit-oriented, without regard for the people in that process. Sex equity in vocational education is a process issue concerned about people and has a very low priority.*

I don't think making money and making goods are antithetical, I'm saying that we tend to divorce the two rather than making money dependent on making more and better goods.

> *Audience: I had the opportunity to visit several states and several programs throughout one area of the country on the eastern seaboard. I saw a lot of programs that are being run on shoestrings in shoeboxes. I saw programs that, if they were given money or given better facilities, could triple or quadruple the number of people they were reaching. However without the money and without the facilities, they were still going strong. So I think that it's both ways. I think that there are some programs that want and need the facilities. There are also, unfortunately, a number of schools*

where the administration says they won't help with money and/or the program unless you bring in the money and facilities. There are other schools that are saying they don't care if they're reaching the people. It just all depends on the particular situation.

Money helps, but it's not the whole story. What does this mean for vocational education? Obviously it means a lot of things. For one thing, much of the success of vocational education will depend on how it relates to the drive to build up industry and to reindustrialize. Many old jobs will become less important; there will be new jobs that become more important. A great many of the semi-skilled operator jobs in industry, the assembler kind of job, will disappear or come near to disappearing. But at the same time the new technology will create a whole series of other jobs, technical jobs in maintaining, operating, and repairing this new technology. And these jobs often will be what you might call white-collar-blue-collar jobs. The people in them are either monitoring equipment, or they are repairing it, or they're checking it, or what have you. And this is very important as witnessed by the near tragedy at Three Mile Island several years ago. Part of the problem there was due to inadequate monitoring of the computer controls at that installation and inadequate training of the people who were supposed to be doing the controlling.

WHAT YOU MIGHT CALL WHITE-COLLAR-BLUE-COLLAR JOBS

Now we've heard a great deal in vocational education about new and emerging occupations. I find it a very elusive subject; it's hard to catch a new or an emerging occupation. But I think what is happening with industrialization is that the job content of many occupations is changing, and that's true both of those in factories and in offices. The machinist must acquire familiarity with numerical machine tools if he or she wants to be with it in the next decade. The old-fashioned typist becomes a word processor. The automobile mechanic's job now breaks down to any of six specialties from repairing the air conditioning, to fixing the body, or to working the computer that diagnoses the machine. Data processing is becoming more specialized and simpler in some fields. So we're getting changing job content throughout the line.

THE JOB CONTENT OF MANY OCCUPATIONS IS CHANGING

But this leaves open what is really the subject of your conference. What about the sex equity issue related to industrialization and related to these changes? Is there any thing to report; and if so, what is it? As Johnny Carson says, there's good news, and there's bad news. And the good news is that these changes, whether it's reindustrialization or the regional changes, are creating new jobs where there hadn't been jobs and people with claims on jobs before. And what has often blocked women from moving in is that there have already been people with a vested interest in the job. If a woman wants to become a carpenter, she's got to get into the carpenter's union. If she wants to be, let's say, an electrician, she's got to go through an apprenticeship that may be very long and intensive. Now people already hold these jobs, and they often don't encourage newcomers.

CREATING NEW JOBS WHERE JOBS HADN'T BEEN

If you look at the areas of growth, either because of new jobs or simply in growing regions, there are shortages; and there are fewer people who have claims on jobs. This makes these new areas easier to enter. I think you will find that this has been historically true for minorities, or for women, or for groups suffering from discrimination. They have benefitted when there has been growth and new development. They have had a very hard time when they've been dealing with what might be called a zero sum game. That's a game where one person's gain is somebody else's loss. Where there's a fixed number of good jobs and if women get more of them, then men, or Blacks, or what have you will have less. Growth and development and reindustrialization get us away from this zero sum game.

THE LABOR CHANGES HAVE BEEN PRIMARILY IMPORTANT AT THE EXTREMES

Let's look at the other side of the picture. If we look at the records of the past ten years, the changes in the status of women in the labor market have been there. But the changes have been limited and primarily important at the extremes. If you are a woman with an M.B.A. right now, you can probably go into any of the country's major banks, and they'll probably be offering you a good job before you can walk out. That's one end for the college educated. Then at the other end are the least skilled jobs. Private household work has practically disappeared in many parts of the country; or it's become very expensive. But in between,

the bulk of the jobs are held by women who are not college graduates. What is impressive is the stability of the representation of women in these jobs. My numbers are a little old here. In the mid-70's we did a study for the Office of Education which included looking at representation of the jobs for which vocational education was an important preparation. One of the things we noticed was that in our base year, 1969, about 97 percent of all secretaries were women. And then we got more recent data for 1977. What proportion of the secretaries were women then?

Audience: 98 percent.

Ninety-eight percent of the secretaries were women then. So there is the big challenge. In this mid-range of jobs, which are most of the jobs your graduates will hold, the progress has been slow and in many cases glacial. A lot of things have got to happen before we get many more changes.

THE PROGRESS HAS BEEN SLOW, EVEN GLACIAL

Audience: There's a debate going on in my state with business and office supervisors and teachers. In business magazines the predictions for the future are that we will reindustrialize clerical work and put 25 thousand dollars worth of machinery and technology behind each secretary. They predict that secretaries' wages and work will go up — that there will be a very glowing future. And on the other side of the argument are women's magazines and other people who are saying that high technology is going to force women into very low entry-level jobs. They say these jobs will be very unsafe because of all the radiation and other stuff from the machines, and there will be no chance for mobility. So they're painting a very gloomy picture. And all of that argument is going on in the face of women continuing to like clerical work and going into it in great numbers. I'm wondering if you would like to try and help me clarify those two seemingly very good arguments about what's going to happen to clerical work. Do you have any opinions?

THE WORD PROCESSOR WILL TAKE OVER

I have no answers; I have opinions. Sure, the word processor will take over. It will take

over in big companies; it's a lot more efficient. And offices will be automated. The typists who remain will be more highly skilled people. They'll be paid higher salaries and benefits. But there will be fewer of them. In other words, you're using word processors; and each word processor takes the job that formerly might have required two or three typists. And I don't know why the machine would give off any more radiation than any other electrical apparatus.

Audience: What's going to happen to those few who are the secretaries that are displaced?

Some will go to college and move out of this field; they'll go back to school and get into other areas. Some will become machine repairers, technicians. Others will get into these rapidly growing services areas -- working for tourist agencies or helping in making movies. And others will get training as medical technicians or data processors.

Audience: Why not trained as doctors? I know that we've talked about secretaries being trained as medical technicians; and I said, "why not doctors?"

Doctors? Better yet, better yet. And by the way women are doing very well. Have you looked at things like women in medical school or law school? There, barriers have really been broken. But, look at the number of women in offices. I think that is one of the dangers of much of this talk of reindustrialization. I think it does hit on some very real problems. But it also overlooks the fact that we are still very much a post-industrial service society and that most jobs in this society are not industrial jobs; and they won't be in 1990.

MOST JOBS IN THIS SERVICE SOCIETY ARE NOT INDUSTRIAL JOBS

The most rapidly growing single group of jobs is clerical jobs. And the next most rapidly growing jobs are professional and technical. So one of the easy outs will be for the present patterns to continue repeating themselves. There will be shortages of good secretaries in 1990, I am sure, just as badly as today. And this will offer the temptation, both to schools and to students, to continue in well-beaten paths rather than to take risks with new ones. And it seems to me that one of the functions of the vocational education system is to encourage more people to take more risks. And on that cheery note, I will leave you.

TO ENCOURAGE MORE PEOPLE TO TAKE RISKS

Fact Sheet

REINDUSTRIALIZATION: SOME TRENDS FOR THE 1980s
by Leonard Lecht
Conference Proceedings, April 1981

Estimates for the 1980s indicate that women will constitute 2/3 of the increase in the labor force.

In 1949 about 50% of men 65 or older were either working or looking for work. Today about 20% are. If this trend continues, by the early 1990s we could have 6 or 7 million more old persons who would be eligible for pensions. However, problems with inflation, social security, and pensions are likely to reverse this trend.

In 1969 we spent $50 billion more for national defense than for programs related to old people. By 1979 we were spending 50 billion more on old people than on defense.

At 10% inflation, in five years a $1,000 monthly pension declines in value in 1980 dollars to $620; after 15 years it drops to $240.

The Age Discrimination Act was amended to outlaw mandatory retirement before age 70 for most people. Although this legislation has not had much statistical effect it symbolizes a shift in government policy encouraging older persons to continue working rather than to retire.

Regarding regional shifts, the person who migrates from the northern and midwestern manufacturing centers to the sunbelt and Pacific regions has a median age of 23 and is at least a high school graduate.

Some states such as South Carolina provide a tax abatement for drawing a new manufacturer and offer to train the required number of employees in their vocational education programs.

Many less skilled jobs in manufacturing simply disappear in the US and move to export platforms in developing nations unless the strong unions and fringe benefits are subsidized through tariffs on imports.

Use of complex technology will increase productivity and compensate for high-cost labor. High technology and employee involvement will restore quality control.

Much of the American industry focuses on short-term gains and is considerably less skilled at making goods or tying the making of money to making goods.

Where there is a fixed number of jobs so that one person's gain is another's loss, there is a zero sum gain situation. Historically, minorities, women and others who suffer discrimination have made most gains when the economy has been growing rapidly.

The representation of women in vocational fields requiring less than a college education has been stable. In 1969 97% of all secretaries were women; in 1977, 98% were.

The most rapidly growing single occupational field is clerical work; clerical work is followed by professional and technical jobs, in that order.

The Planning Perspective
for Vocational Equity:

CRITICAL ISSUES FOR VOCATIONAL EDUCATION

MARIE MAYOR

Special Advisor for Sex Equity Issues
U.S. Department of Education

LINK ADVOCACY GROUPS WITH EDUCATIONAL GROUPS

This morning I would like to address the planning process and vocational sex equity. It is crucial, particularly for vocational personnel who have been on the job a short amount of time, to link advocacy groups with educational groups in an effort to build coalitions. A formal part of the planning process should demonstrate how working together can obtain the results needed to strengthen American education. I suggest that the newer sex equity coordinators talk to people who have been in the coordinator's position for several years to obtain ideas that have worked for experienced coordinators. Coordinators began meeting together in October 1978 in Coolfont, West Virginia. One of the strengths of vocational sex equity efforts is the work that is presently underway to develop coalitions and increase networking to improve vocational education. These activities are tools to ensure individual sex equity plans meet local and state needs.

OBTAIN IDEAS THAT HAVE WORKED

Before we get into the specific tools that make our plans work, we should identify planning models that have worked in the past. Some state agencies follow management by objective formats. For example, the State of Maryland uses "Agency Performance Plans" to detail work plans and activities. Identify the planning

format that is most likely to be used in your state and begin working objectives for sex equity into the format. Coordinators in many states assist in the development of vocational state plans. The panel discussion to follow these introductory remarks will address specific techniques that have worked at the state and local level. I hope that this morning's presentation will provide practical information that can be easily applied in your own state.

EACH OF US HAS A DIFFERENT MANAGEMENT STYLE

It's important to identify a model that works best for you. Each of us has a different management style. Some of us are able to meet frequently on a one-to-one basis with local vocational directors or the occupational deans of community colleges. This personal interaction appears to enhance greatly the success of vocational equity plans and their implementation. However, in states with a large number of local educational agencies such interaction may not be feasible. I use this example to point out the importance of discussing with other sex equity coordinators those planning processes that have proven to work well over the years.

Within the planning model that is identified, select issues and strategies that can be brought to any planning situation. For example, I want to build on a planning design used by Amanda Smith, an education and management consultant. Identify all opportunities that we have in a planning situation to enter sex equity as an issue into individual vocational issues. Recognize the

OPPORTUNITIES TO BUILD TRUST BETWEEN MEN AND WOMEN

opportunities that we have to build trust between men and women and to expand opportunities for members of both sexes in our programs.

The ultimate goal in the planning process for vocational sex equity -- and I think we need to say this loud and clear so that community leaders and educators can hear us -- is to improve the quality of vocational education programs. Building trust between state directors and sex equity coordinators, we can achieve this common goal. Together we can address some of the critical national issues before vocational education today. For example, identify strategies that integrate sex equity into the vocational education administration at the state level. We can serve the local agencies by identifying incentives for each local agency to be considered when planning.

Again, I want to stress my support for coalition-building. I believe it is a vital tool in helping local agencies identify incentives that work.

In October 1978 OVAE (Office of Vocational and Adult Education) personnel identified sex equity coordinators as offering leadership in the forefront of change in vocational education. The National Advisory Council on Women's Educational Programs and the National Advisory Council on Vocational Education held a joint forum on March 25 of this year to review their report on sex equity in vocational education. At that hearing several members of those two councils identified the sex equity coordinator linkage in vocational education as the best sex equity network in the country. If that is true, we are going to have to work even harder and practice even more perseverance to promote sex equity both in vocational education and other educational programs.

THE BEST SEX EQUITY NETWORK IN THE COUNTRY

Of value in the planning process is the documentation of the state of the art. We should identify what has worked to promote sex equity in vocational education and identify those activities yet to be implemented or evaluated. The business perspective, the changes in enrollment of female and male students, the number of vocational administrators who are women (as New York State's efforts by Carol Jabonaski and Mary Ann Etu) need to be brought to the awareness of all vocational personnel.

A needs assessment should become a part of the planning process. Two resources for the development of an adequate needs assessment are Institutional Analysis: A Basis for Curriculum Development and Evaluation and Employer Needs Assessment in Broward County, Florida. Both publications are available from the ERIC Clearinghouse (ERIC Documents ED 167227 and ED 184652 respectively).

WE MUST LOOK AT THE CRITICAL ISSUES

The primary thrust of any planning process must look at the critical issues before vocational education in this decade. I would like to discuss eight national issues that will have impact on vocational education and our efforts to promote sex equity in the 80's.

Japanese business initiative. Successful Japanese business managers insist they are using American management theories. They bring to the attention of American business leaders how the Japanese are applying these theories in a democratic manner. Their description of the applied theories illustrates a concern for employee needs and includes a management style with elements of positive "male" and "female" attributes rather than the more "macho" image of the American manager. What role do we have in planning a vocational program that emphasizes the acquisition of these management skills?

ELEMENTS OF POSITIVE "MALE" AND "FEMALE" ATTRIBUTES

Dependency on foreign imports, particularly oil imports from the Middle East. Most vocational educators readily see our role in seeking new energy sources or limiting the use of oil. I'd like to propose that vocational equity personnel use as background in the planning process the relationship, if any, between America's dependence on foreign imports from nations that suppress women's rights and America's progress in promoting equal rights at home and abroad.

Women workers and emerging occupations. Encouraging workers and potential workers, particularly disadvantaged women who receive public assistance, to enter new and emerging occupations can be a major thrust of vocational education in the '80s. Will women, especially those who have limited employable skills, fit into an American labor force that requires highly developed technical abilities? How can we use the planning process to better meet the needs of disadvantaged women and men? If this issue is not addressed, will we see even stronger trends toward the "feminization of poverty"?

TRENDS TOWARD THE "FEMINIZATION OF POVERTY"

Productivity. When people work together, how do stereotypes about "women's work" and "men's work" impact the worksite? How can we plan to help workers realize that one's gender is inherent, that it is not earned? How can we help people expand their self awareness rather than define themselves in terms of their occupations?

Military readiness. To expand the issue of productivity, how do sex stereotypes affect the working relationships and job productivity in the military? Women are entering the armed services in large numbers. What are the components of a plan to address their needs to enhance U.S. military capabilities?

Fear of change, backlash, and repression of equal rights. How do we use the planning process to anticipate that changing behaviors of women and men will be difficult for many persons to accept? We are living in a transitional time; how do we plan for the obstacles to accepting new behaviors for women and men in the home and on the worksite? We are moving; but, sometimes, a lot of our energy doesn't seem to be directed toward forward movement. It may seem we are staying in the same place and maintaining the status quo; I think this perception needs to be anticipated and built into any equity plan.

In addition to repression of equal rights we are dealing with groups attempting to censor textbooks and limit educational authority. The American Library Association, in particular, and school librarians are working to ensure that students get full information in their libraries. I don't know how many of you are from states where this is a critical issue, but there are about 12 states where local and state proposed ordinances or bills address which types of books can be in libraries. For example, one of the issues is the portrayal of the traditional nuclear family in contemporary books. Some groups want all families described with the full-time male breadwinner, full-time female homemaker, and two or three children in the home. We know that type of family is only seven percent of all the families in the United States. Become aware of this and similar issues. Anticipate by early planning to work with these groups when they approach vocational education. Bring to their attention that full disclosure of information is being provided to all students. We are portraying a real world that includes the traditional family and the non-traditional family.

FEAR THAT THE AMERICAN FAMILY IS BEING UNDERMINED

Family stability. The repression of equal rights is partially a result of a consuming fear that the American family is being undermined. This fear brings up the seventh issue being addressed--the issue of family stability. How can we best plan to improve family stability through vocational education? Many sex equity coordinators address this issue by helping all vocational educators (not only home economics teachers) recognize the equal value of work inside and outside the home. Vocational students are becoming better skilled for jobs inside and

outside the home. Families will have new opportunities to share in homemaking and wage earning experiences, which should help men and women see opportunities for partnership in family tasks.

The federal role in education. The eighth issue is the definition of the role of the federal government in education. Is it to provide funds to underserved populations? Or should funds serve more of the "regular" students? Whatever the definition is, it's clear that the role is changing. We have to anticipate the changes in the federal role and plan how those changes will have impact on our work and the planning that will be done at the state level. It appears that most of the important decision making will take place at the state level. Again, coalition building at the state level with the governor, the state superintendent, the state director, the sex equity coordinator, and advocacy groups will have a vital effect on how the money is spent within a block grant arrangement.

ANTICIPATE THE CHANGES IN THE FEDERAL ROLE

I brought copies of the Maryland Vocational Equity Management Plan to share with you today. I suggest that each of the eight previous issues be addressed in the context of our responsibilities to students at three critical intervals: a) What are those things that we need to plan for before the student is admitted -- the recruitment, the counseling, the criteria for enrollment? b) What needs to be done while the student is in the program? and c) What is our responsibility for placement and followup after the student completes or leaves the program? If we can look at vocational education in those three perspectives together with the eight critical issues, it may be easier to plan for the role of the counselor, the instructor, the administrator, the sex equity coordinator, and the placement officer.

I would like to say a few words about the State Plan Council and the State Advisory Council. It is important to provide up-to-date vocational equity information for these groups to use as they plan and evaluate the success of our programs. Both Councils have opportunities to promote sex equity. The groups can become planning assistants for sex equity if they have adequate resources on which to base their decisions. The issue of sex equity provides a medium in which to work with the Councils to promote trust between groups

PROVIDE UP-TO-DATE INFORMATION FOR THESE GROUPS TO USE

that may not have been working effectively or in a close relationship with us in the past. An example of the information that you may like to share is two handbooks being developed by an OVAE contractor to help establish programs for women who are considering non-traditional occupations.

I would like to close with a few comments about the socio-political milieu in which we are working. I hope that, although I have identified some of the planning problems, we can stay together and persevere. For those who haven't worked with me before, my paid employment in the late sixties and seventies was in the civil rights movement to help desegregate a large school district in Maryland. I find it helpful to remember some of the letters that Martin Luther King wrote from a Birmingham jail. He wrote that although a situation may not look favorable for civil rights now, recognize America's destiny toward freedom. If our efforts to promote equal rights and respect for men and women and minorities seem hopeless, we may be standing too close. When this decade is remembered, it will be put in perspective much like the presentation we heard yesterday by Mary Rothschild. Change occurs painfully slowly. We need to recall the movements over the past two or three hundred years. I am impatient; but, I am trying to put into perspective how very new we are in trying to address a very old problem in our society.

RECOGNIZE AMERICA'S DESTINY TOWARD FREEDOM

What will we be doing ten years from now? How can we work together to promote equity across the world? We are seen here and outside the United States as leaders in our attempts to meet the needs of women and men equally. I hope we can be tolerant of the new people with whom we will be working. I hope we will develop ties with the Senate Labor and Human Resources Committee, the Committee that will be reauthorizing the vocational amendments. It's important to respect the views of the people who do not agree with our work. Their presence provides an opportunity to promote our work--to promote trust and remain tolerant in a situation none of us anticipated one year ago.

LEADERS IN OUR ATTEMPTS TO MEET THE NEEDS OF WOMEN AND MEN

Fact Sheet

VOCATIONAL EQUITY: THE PLANNING PERSPECTIVE

by Marie Mayor
April 1981

Sex equity in vocational education is strengthened by the development of coalitions and the increase of networking. In an effort to build coalitions for sex equity in vocational education, coordinators should link advocacy groups with educational groups.

Newer sex equity coordinators can obtain ideas for successful strategies from experienced coordinators.

It is important to identify a model (for developing vocational state plans) that works best for your situation.

A needs assessment should be part of the planning process. Two resources are: Institutional Analysis: A Basis for Curriculum Development and Evaluation (ERIC 167 227); and Employer Needs Assessment in Broward County, Florida (ERIC 184 652).

Eight national issues that will have impact on vocational education and efforts to promote sex equity in the '80's:

Japanese business initiative: The Japanese have applied American management theories in a democratic manner that includes elements of positive male and female attributes.

Dependency on foreign imports, particularly oil imports from the Middle East: America's progress in promoting equal rights at home and abroad could be limited by a dependence on imports from nations that suppress women's rights.

Women workers and emerging occupations: There is a need to fit women into emerging occupations in order to avoid trends toward the feminization of poverty.

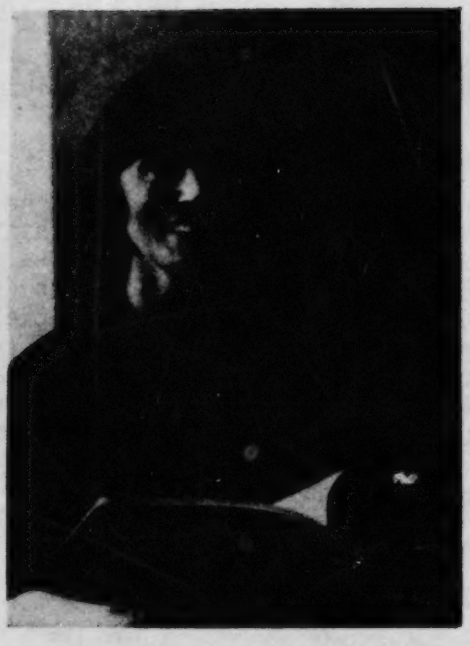
Productivity: We need to help workers focus on productivity rather than on male/female work stereotypes.

Military readiness: Role stereotypes must be overcome if women are to contribute maximally to the enhancement of U.S. military capabilities.

Fear of change, backlash, and repression of equal rights: Advance planning can enable policy makers to overcome reactionary responses such as restrictive ordinances that control the selection of school library books.

Family stability: Vocational education can support family stability by helping men and women see opportunities for partnership in family tasks and recognize the equal value of work inside and outside the home.

The federal role in education: We have to plan for the changes in the federal role and become active in the important decisions that will now take place at the state level.



The Evaluation Perspective for Vocational Equity:

DEVELOPMENT OF CRITERIA FOR SEX EQUITY PROGRAMS

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Criteria for evaluating educational programs are not universal; their substance and rigor differ in relation to:

1. The history of a subject area and its "maturity";
2. The specificity of a program's objectives;
3. The quantifiable program events that relate to objectives;
4. The cooperation of program directors in providing documentation concerning program process;
5. The cooperation of program participants in providing data concerning program effects;
6. The resources and time available for evaluation.

CRITERIA CANNOT BE ADOPTED DIRECTLY

Criteria for evaluating exemplary sex-fair vocational education programs cannot be adopted directly from the criteria used by compensatory education programs, bilingual education programs, or even older vocational education programs. Nor can one set of

criteria be applied with equal rigor to sex-fair programs ranging from, for example, classroom instruction and inservice training to guidance and community education.

DIFFICULTY IN REACHING CONSENSUS ABOUT OUTCOME CRITERIA

Yet the recurring need to collect data on the process and effects of programs requires that sets of evaluation criteria be drafted. The September 1980 issue of VocEd is devoted to the difficulty of the task. The lead article by Robert Darcy of the National Center for Research on Vocational Education discusses the difficulty of reaching consensus about outcome criteria. Other articles are concerned with longitudinal studies, economic effects of vocational education, non-economic effects of vocational education, research of consumer and homemaking education effectiveness, etc. One of the most rigorous efforts to develop evaluation criteria resulted in Tallmadge's (1977) Ideabook that was developed for the federal Joint Dissemination Review Panel (JDRP). The six criteria are:

1. Did a change occur?
2. Was the effect consistent enough and observed often enough to be statistically significant?
3. Was the effect educationally significant?
4. Can the intervention be implemented in another location with a reasonable expectation of comparable effect?
5. How likely is it that the observed effects resulted from the intervention?
6. Is the presented evidence believable and interpretable?

WHETHER A STATISTICALLY SIGNIFICANT CHANGE OCCURRED

These criteria reflect the background from which they were written -- namely, Tallmadge's work in developing models for Title I evaluation. Although the problems of Title I evaluation are far from solved, the question of whether a statistically significant change occurred is more readily applied to Title I reading and mathematics than to sex-fair vocational education. However these same six questions can also be explicated in terms of sex-fair vocational education.

1. Did a change occur?

In JDRP usage, this criterion relates primarily to students' cognitive gains. However, in the evaluation of sex-fair vocational programs, there is need to measure three distinct types of change, only one of which encompasses students' cognitive gains.

First, a sex-fair vocational education program may be predicated upon structural changes at the district level or building level. Examples of structural changes include the employment of more or different personnel in vocational education instruction or guidance, establishment of new instructional programs requiring new or altered facilities, arrangements with community employers for cooperative programs, etc. Structural changes are readily documented with respect to location, extent, duration, and resource allocations.

STRUCTURAL CHANGES ARE READILY DOCUMENTED

Second, a sex-fair vocational education program may be predicated upon process changes. Examples of process changes include reassignment or new duties for already employed personnel, new content in instruction or guidance programs, recruitment of females into previously male-emphasis courses and vice versa, changes in inservice training for teachers and counselors, efforts to increase community awareness of vocational education options for both sexes, etc. Process changes are not as readily documented as structural changes, but program records combined with observation can verify that process changes have taken place.

Third, a sex-fair vocational education program usually has outcome changes as its "bottom line." Outcome changes are not exclusively cognitive or affective; for example, changes in participation rates of females and males may be important indicators in the early stages of a program before valid cognitive or affective data can be collected. Nor are students the only target group for assessing outcome changes. Teachers, counselors, administrators, parents, employers, and others in the community may be target groups for assessing outcome changes in the case of inservice training, community workshops, etc.

TEACHERS, COUNSELORS, ADMINISTRATORS, PARENTS, EMPLOYERS, AND OTHERS

MODELS THAT ARE INTENDED TO SUBSTANTIATE CHANGE

Thus the evaluation of sex-fair vocational education programs stretches the concept of change beyond its usual JDRP usage. The measurement models that are intended to substantiate change in JDRP submissions and Title I achievement reports are only part of the array of models that should be applied to the measurement of structural, process, and outcome change in specifying evaluation criteria and corollary measures for this project.

2. Was the effect consistent enough and observed often enough to be statistically significant?

Again, "effect" in this criterion refers implicitly to students' cognitive gains. The criterion of statistical significance is moot with respect to well-documented structural or process changes -- either such changes have taken place or they haven't. Whereas the inference of outcome change is probabilistic with respect to samples from the target group and samples of test items, the inference of structural or process change is deterministic except for errors in record-keeping or observation that call for a multiple-indicator approach and convergent validation rather than statistical significance testing.

LACK BOTH NATIONAL NORMS AND CONTROL GROUPS

Ninety percent of the projects even in the well-developed area of Title I evaluation substantiate the inference of outcome change with reference to national norms rather than control groups. The majority of sex-fair vocational education programs lack both national norms and control groups. They also lack distinct cutting points for student assignment to treatment conditions on the basis of need or previous achievement; without distinct cutting points, not even regression discontinuity analysis is possible.

Thus the criterion of statistical significance is moot with respect to structural or process changes in sex-fair vocational education programs, and it raises many validity threats with respect to outcome changes. Overly rigorous application of this criterion would leave most programs in the category of "effects unproved."

However, measurement problems cannot be left as an impasse in the evaluation of sex-fair vocational education programs. There is need to

specify criteria of significance that can be approached via convergent validation.

3. Was the effect educationally significant?

The educational significance of a reading or mathematics program is determined in Title I evaluation by the extent and persistence of changes in the students' normal-curve-equivalent scores (Title I evaluation has finally laid to rest the invalid comparison of grade-equivalent scores). What is a comparable indicator of significance in sex-fair vocational education programs? Actually, there are several such indicators, and they provide a basis for optimism in using this criterion. An interrupted time-series design can be used with school records to index changes in the participation rates, attrition rates, and achievement scores of girls in previously male-emphasis vocational education courses and of boys in previously female-emphasis courses. Counseling and placement records can also be analyzed via an interrupted time series design.

WHAT IS A COMPARABLE INDICATOR OF SIGNIFICANCE?

In the case of basic-skills programs (e.g., almost all Title I projects and a large percentage of all JDRP-approved programs), "educational significance" is defined as better than average progress through the basic-skills curriculum. In the case of sex-fair vocational education programs, educational significance is defined as the degree to which sex-equity objectives are being attained. That is, there is little "evaluation credit" for the number of students participating in a Title I basic skills course since they are obliged to participate in some basic-skills instruction anyway, but the increasing number of girls participating in previously male-emphasis vocational education courses and boys participating in previously female-emphasis courses does partly confirm the educational significance of a sex-fair vocational education program. The fundamental sex-equity criterion that girls can and do avail themselves of the same educational opportunities as boys (and vice versa) is actually easier to confirm from available data than the basic-skills criterion of better-than-average progress.

THE DEGREE TO WHICH SEX-EQUITY OBJECTIVES ARE BEING ATTAINED

4. Can the intervention be implemented in another location with a reasonable expectation of comparable impact?

This is, of course, a central policy criterion for evaluating educational programs. Some programs are so contextualized in local situations and local resources that they cannot be replicated elsewhere. Such programs are interesting cases, but they have no national significance.

NO FORMAL MEASURES OF PROGRAM "EXPORTABILITY"

The present state of the art in educational evaluation provides no formal measures of program "exportability." Instead, informed judgment is brought to bear on indicators of program costs, facility requirements, personnel requirements, administrative support, etc. If these indicators are within a normal range for comparable programs nationwide, then it is concluded that the program is probably exportable. Additional factors of perceived cost/benefit, communicability, trialability, etc., affect the actual rate of program diffusion.

There should be only average difficulty in determining whether sex-fair vocational education programs are exportable. Both because of its policy significance and because of its feasibility, this criterion is a good candidate for use with sex-fair vocational education programs.

5. How likely is it that the observed effects resulted from the intervention?

IT IS A DIFFICULT MEASUREMENT PROBLEM

In the case of a basic-skills program, the cause-and-effect inference is met with a reasonable skepticism. Most children will gain in basic skills from September to June whether they participate in a special program or not. Other classes, parents, friends, and even television teach basic skills every day. It is a difficult measurement problem to disentangle these effects from the effects of the special program.

On the other hand, the number of girls and women receiving various types of vocational instruction is well-documented in school records, just as the number of women applying for and receiving employment in various fields can be ascertained. If an interrupted time series

design shows that any of these indicators changed significantly in a particular community at the predicted point in the time frame of a sex-fair vocational education program, then any remaining skepticism concerning the effects of the program can be allayed by finding out corollary facts about program participants and their subsequent activities.

In other words, although a true experimental design would permit a stronger inference concerning program effects, it is possible to remove most doubt from the inference that a particular sex-fair vocational education program has affected the subsequent educational and occupational decisions of its female participants. The strongest non-experimental inference is possible when the program "opens a door" or "clears a barrier" for female and male students so that they can plan to enter an occupation that was largely closed to them in the past.

6. Is the presented evidence believable and interpretable?

A CRITERION FOR EVALUATING THE EVALUATION ITSELF

It is important to note that this criterion relates only tangentially to the program being evaluated. It is a criterion for evaluating the evaluation itself. A good program can have its strengths obscured by a bad evaluation, even if the converse is not true. Both the conduct of the evaluation and the mode of reporting its findings need to be credible and clear to readers/listeners with average interest and background knowledge.

Ironically, we can thank the past cases of unbelievable and uninterpretable evaluation for much of our present practice since the past cases focused attention on what was wrong with evaluation itself and led to important improvements in procedure and reporting.

EVALUATION IS ADMITTEDLY AN IMPERFECT SCIENCE

The "invisible college" of educational evaluators in education agencies, universities, regional laboratories, research firms, etc., currently disagree about many issues (e.g., goal-free evaluation, latent-trait measures), but they have converged over time in the essential features of procedure and reporting. Although evaluation is admittedly an imperfect science, the criteria of credibility and clarity are being met with increasing success over time.

As we have worked on the criteria to be used for the catalog of exemplary sex-fair vocational education programs, we have made a distinction between evaluation criteria and documentation points. The latter are non-evaluative facts about each of the identified programs. All programs can be well documented, but not all programs can be well evaluated at this stage in their development.

WHAT IS WORTH KNOWING ABOUT THE PROGRAM

Documentation and evaluation are interrelated activities. Documentation is guided by a perspective of what is worth knowing about the program. The perspective of what is worth knowing derives partly from evaluation criteria. Evaluation, in turn, derives some credibility from program documentation, even though such documentation is distinct from evaluation data.

PROGRAMS THAT WERE NEVER DESIGNED TO MEET THESE STANDARDS

The compilation of exemplary sex-fair vocational education programs that we have prepared includes information pertinent to both documentation and evaluation. However, the program descriptions do not represent an evaluation of the programs. Even within the context of JDRP, programs that have been nominated are reviewed for social fairness and accuracy of the evidence supporting claims of effectiveness by the funding source. Once they pass that review, the program prepares a 10-page summary that presents evidence of each of the six evaluation criteria in the Ideabook. In other words, the outsider does not evaluate the program. Rather, program staff who want to go through JDRP review, prepare documentation that is based on their own evaluation studies done as an integral part of the project. To arbitrarily apply JDRP or JDRP-related criteria to programs that were never designed to meet these standards seems unfair, at best, and seems to doom these projects to failure, at worst.

Consequently, we have gathered primarily documentation points so that the program can be well described and others will know if it is the type of program that might be useful to them. At two places in the descriptions we have included evidence that will reflect on two of the six JDRP evaluation criteria -- in the discussion of program outcomes and discussion of potential for replication.

VITAL AT A TIME WHEN ACCOUNTABILITY IS REQUIRED

We continue to believe that evaluation is critical to the future of the promotion of sex equity in vocational education. It is vital in a time when accountability is a word on the tips of many tongues. We propose that information concerning JDRP criteria be introduced by you--state directors of vocational education and sex equity vocational education coordinators--at the funding end rather than at the receiving end--project directors--especially when most programs that we visited were in the final stages or have already concluded. Realistically, it is better to get you to "encourage" or "require" programs to produce evaluation data than it is for a site visit team, after-the-fact, to apply the criteria.

Following are a set of categories that we documented during the site visits. The settings, history, description, funding, and program future categories organize the documentation points. The outcomes section and replication category address formal evaluation criteria.

Site Visit Documentation Categories

1. Setting

TO REPLICATE ONE NEEDS A SENSE OF THE PROGRAM'S SETTING

This includes information on the community where the program is located including population data, employment data, ethnicity data, and facilities used by the program. The intention is to set the stage rather than to divert attention away from the program. Others who may decide to replicate the program need a sense of the setting in which the original program was developed. The data were partially impressionistic, but when demographic facts were available, they were utilized.

2. Program History

Why the program was started, how it got started, who was responsible, etc.

3. Program Description

A complete description of the program is important if others are to consider using the program. Specific points included are:

Objectives: stated objectives of the program.

Educational Level: There are three possibilities--pre-vocational (up to 8th grade), secondary, and post-secondary. The response here is dependent on the content of the program and not the audience.

Unique Target Audience(s): If other than regular secondary or post-secondary students are involved, we document this (e.g., disabled, minorities, adolescent mothers)

Occupational Area: There is documentation of specific occupational areas covered by the program. Programs that are general in nature do not provide information on this item.

Staff: Information is provided on size of staff, type of expertise, and previous training (if pertinent). The amount of staff time required to conduct the program is important for others considering use of the program. A distinction is made concerning amount of staff time required to develop the program and amount of staff time required to run an implemented program.

Activities: This category provides the most detailed information on the critical elements of the program--recruiting, instruction, in-service training, support services, job development, job placement, community involvement, community support, etc.

DID STRUCTURAL, PROCESS, AND/OR OUTCOME CHANGE OCCUR?

Outcomes: Information/documentation on type of evaluation conducted as well as results of the data collection effort. The particular question focused on is: Did structural, process and/or outcome change occur? Although each type of change may be documented with a different kind of information, the site visit has helped to ensure that existing data is utilized in the description of the program.

4. Program Funding and Duration

Programs may have had multiple funding sources. Each source and amount of money is documented as well as the use made of the money (e.g., stipends for displaced homemakers versus staff salaries). The length of the program as well as the length of each source of money is noted.

5. Program Future

Plans for new activities are included.

6. Replication Hints

Can the program be implemented in another location? What parts of it are so unique that a replication would result in different outcomes? What materials or assistance is available from the site for others wanting to replicate? What "words of wisdom" can the staff pass on to others wanting to replicate their efforts?

WHAT "WORDS OF WISDOM" CAN THE STAFF PASS ON?

Fact Sheet

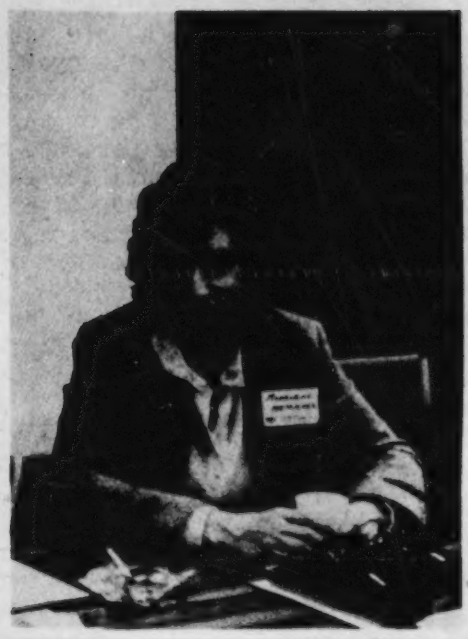
THE EVALUATION PERSPECTIVE
By Matilda Butler
Conference Proceedings, April 1981

The substance and rigor of criteria for evaluating educational programs differ in relation to:

- The history of a subject area and its "maturity";
- The specificity of a program's objectives;
- The quantifiable program events that relate to objectives;
- The cooperation of program directors in providing documentation concerning program process;
- The cooperation of program participants in providing data concerning program effects; and
- The resources and time available for evaluation.

The Joint Dissemination Review Panel (JDRP) uses the following criteria to determine whether an educational program will be disseminated nationally through the National Diffusion Network (NDN):

- Did a change occur?
- Was the effect consistent enough and observed often enough to be statistically significant?
- Was the effect educational significant?
- Can the intervention be implemented in another location with a reasonable expectation of comparable effect?
- How likely is it that the observed data resulted from the intervention?
- Is the presented evidence believable and interpretable?



The Business Perspective on Reindustrialization:

ECONOMIC RECOVERY AND EDUCATION

MADELEINE B. HEMMINGS

**Committee Executive,
Education, Employment & Training
Chamber of Commerce of
the United States**

The time has come for business people and educators to join hands in understanding and cooperation for the greater good of our society ... our employees and our students.

I will describe forces I see converging which -- if we work together -- and handle them right -- will create increased opportunity for us all. Those forces are economic recovery, the demography, and the national skill shortage.

First, economic recovery: Today, the American economy is sluggish but not in recession. However, it is plagued by unacceptable levels of inflation, unemployment, taxes, interest rates and increasing competition from foreign business and industry. Since the end of the 60's we have experienced three serious recessions. In the last 17 months, there have been three credit crunches and several peaks in short-term interest rates. With the exception of the great Depression, there has not ever been such sustained instability in the economy. Since 1972, the average wage earner has seen his or her real spendable earnings decline 15%.

SINCE THE DEPRESSION, THERE HAS NOT BEEN SUCH SUSTAINED INSTABILITY

From 1955 to 1963, our productivity increased at an annual rate of 3.1%. But then things changed. From 1965 to 1973, productivity growth declined to 2.3%, then limped along at less than 1% from

OUR RECENT PRODUCTIVITY EXPERIENCE IS WORSE THAN THAT OF OUR COMPETITION

1973 to 1978. Since then the growth rate has been negative. A negative productivity growth rate means that the average worker produces fewer goods and services today than he or she did in 1978. Our recent productivity experience is worse than that of our foreign competition -- which explains why some of our key industries are under severe pressure from that foreign competition.

To restate the obvious, when business goes to foreign competition, there are less jobs for American workers, less income for business to invest in creating new jobs, less income for all of us, and eventually a lower standard of living. Between 1965 and 1975, the percentage of imported autos rose from 6 to 15.1% of domestic sales -- that means we lost nearly 64,000 jobs in this country.

Unless we take immediate stept to correct these problems, our future may well hold more of the same. The question is what to do?

We need to rebuild our industrial plant. To do so, we need to change the environment in which business operates. Several decades of taxation to support growing government and other non-profit programs have provided serious disincentives to invest in capital goods such as new plant and equipment. Those who want to borrow money for new equipment must compete for investment capital in a money market where previously unheard-of government borrowing levels have driven the cost of money out of sight. Continually shifting federal regulatory and monetary policy have made long-range planning very difficult for everyone. And inflation is making management decisions almost impossible.

A PROGRAM TO ACHIEVE A HIGHER RATE OF SAVINGS AND INCREASED INVESTMENT

The U.S. Chamber has a program to pull us out of this mess called "Let's Rebuild America." It is a program to achieve a higher rate of personal savings and increased investment in modern and efficient equipment and technology. We believe we must begin with the following steps:

- replace the present system of depreciation allowances in the tax system, with a simplified cost recovery system.

- reduce tax rates on corporate income - now at 48%.

- balance the federal budget.

- cut federal spending to make room for at least $25 billion in immediate tax relief.

- limit federal spending to 20% of GNP by 1985 and ultimately reduce it to 18%. It's now 23%.

- allow deferral of personal income taxes on reinvested interest, dividends, and capital gains.

- broaden the eligibility for and establish higher limits on annual tax-free contributions to personal retirement accounts. This last would greatly help increase the reservoir of investment capital while assuring better financial security for our aging population.

If these steps are taken -- and the present political atmosphere suggests that it is possible, what then? Will we be able to use effectively our greatest asset -- our people? And here is where we need your help.

If the economic recovery begins and business grows and creates new jobs, we will begin to feel the impact of the converging forces I mentioned earlier: major changes in the American demography and the growing shortage of skilled workers.

The Changing Face of America's Population

UNTIL RECENTLY, DEMOGRAPHICS CHANGED SLOWLY

Demography is the study of the distribution and size of the population. Until recently, demographics changed so slowly that it was considered a given in business decision-making. Major population change used to occur only through migration until the late 40's and 50's, which brought the baby boom. Then the late 60's and 70's saw the baby bust ... for then the birth rate dropped to its present level of 1.8 children per couple when the replacement rate is 2.1 children per couple. This change means the labor force will grow at an annual rate of 1.25% to 1.5% per year in the 80's, but that growth will slow to less than 1% a year during the 1990's. The children of the 60's and 70's are the workforce of the 80's and 90's, and there will be less of them.

In addition, the workforce of about 103 million will divide into several groups -- each representing its own set of challenges:

The 16 to 24 year olds. There will be many less of them in the 80's. Estimates of the drop range from 8 to 16%. An 8% drop represents an absolute number drop of some 2 million people by 1990 and another 2 million by 2000. Membership in this age group will contain a higher percentage of minority group members and people whose native language is not English.

The 25 to 44 year olds. These will increase by 30%. The group will expand from 47.6 million in 1980 to 65 million in 1990. By 1990, this age group will constitute 53% of the labor force.

Those over age 55. Their numbers are growing and their life expectancy continues to rise dramatically. Today their population is 47.1 million, up from 40.8 million in 1975. By the year 2000, the population of the U.S. will have tripled during the century, but the number of those over 65 will have increased 10 times.

44 million women are now in the labor force. 60% of the married women now work. Of those, 62% have children under 18; 45% have children under age 6. Women under 50 are now represented in the workforce equally with men. The majority of them expect to work for most of their lives.

What does this mean? It means that there will be:

- increased competition for entry level workers;
- higher wages for less experienced workers.

Think of this with the understanding that underdeveloped countries are experiencing great growth in their young labor force; so they will be out looking for jobs for their people, frequently at a lower price, to enable their people to eat.

TO INCREASE ITS PRODUCTIVITY SO IT CAN COMPETE

American business will have to increase its productivity so it can compete with this cheap labor supply ... or it will have to move its business to the source of cheap labor, or be priced out of the market. For if our prices are not competitive, the Japanese, or someone else, will sell the same product for a lower price

because these countries will take their business to the cheap labor supply.

Business will develop a vital interest in the adequate preparation of the school-age population. For preparation which does not take place in the schools will have to be provided later at much greater expense. There will be great pressure to teach each student the first time through.

COMPETITION FOR JOBS AMONG THOSE AGED 25-44 WILL INCREASE GREATLY

Competition for jobs among those aged 25-44 will increase greatly causing intergenerational conflict, difficult work environments, and, perhaps, increased interest in collective bargaining, as well as a very high demand for retraining. We've already seen that since the middle 60's the number of unemployed people in this age group has quadrupled.

The older population will become an even greater political force. Many people over age 55 will not be able to afford retirement, and others will not want to. Employers may find out how valuable are the skills of this age group, and we will see age diminish as a factor in personnel decision making.

Women will be looking for equal opportunity, for access to responsible jobs, as they gain the education, experience, and dedication to hold those jobs.

ECONOMIC RECOVERY WILL MAKE THE SHORTAGE OF SKILLED WORKERS WORSE

Demographic change is coupled with a growing shortage of skilled workers: the supply is short now in many areas. Economic recovery will make that shortage worse. Let me cite some of the evidence of this shortage:

- The Associated General Contractors of America report that apprentices are not being trained fast enough to replace retiring journeyworkers in the commercial construction trades, an industry which accounts for 3 out of every 10 skilled workers in America.

- The Department of Labor reports that the U.S. will need 210,000 machinists plus 196,000 machine operators by 1990. Yet only 2,300 people are completing apprenticeship programs in the critical field each year.

- For each of the next 10 years, our nation will require 10,400 tool and die makers, 58,000 machine repair persons, 35,000 inspectors, 9,200 industrial computer programmers, 7,900 industrial system analysts, 11,000 drafters, and 23,000 engineering technicians.

In August 1980, U.S. News and World Report described an appalling demand for:

Nurses - the American Hospital Association reported 84,000 vacancies in March, 1980. By 1985, the Association anticipates 125,000 vacancies. Pay and hours are a problem in recruiting nurses.

Taxi drivers - Checker in Chicago is offering $50 in cash to each of the first 100 respondents to its ads.

Computer Specialists - There is a terrible shortage of these people, even with salaried ranging from $25,000 to $70,000 a year.

Others - accountants, bookkeepers and clerical workers, airline and diesel mechanics, instrument makers, metal lathe operators, model designers who earn $21/hr.

Conoco says it loses skilled people as fast as it can train them.

COMPANIES ARE STARTING TO BREAK DOWN MACHINISTS JOBS INTO SIMPLER ONES

Because many companies can't get the machinists they need, they are starting to break the jobs down into simpler ones which will pay less.

Secretaries are a story unto themselves. Dunhill personnel system says the shortage is now 80,000. By 1985, it will be more than a quarter of a million. Good secretaries are now harder to replace than a good executive. Secretarial positions at $22,000 to $28,000 a year are staying open for months on the West Coast.

The Massachusetts High Technology Council, the trade organization for the state's 100+ technology-based firms, says these firms could create 100,000 jobs in the next few years. They can't find the employees in Massachusetts and so must look elsewhere around the world.

A recent survey of approximately 100 small manufacturing and service firms in Massachusetts indicated that 46% were experiencing great difficulty getting qualified employees.

An Armed Forces Committee report dated December 30, 1980 found that skilled worker shortages are prevalent throughout industry to the point of being a major contributor to the increasing lead times and costs currently afflicting the Defense Industry. The same report showed that 90% of the U.S. manufactured semi-conductor assembly is done off shore: in Malaysia, Singapore, Taiwan, the Philippines, Korea and Hong Kong.

90% OF THE U.S. MANUFACTURED SEMI-CONDUCTOR ASSEMBLY IS DONE OFF-SHORE

Pierre Rinfret, a noted economist, says the defense-related aerospace and aircraft industries have never operated at over 78% of capacity because of the shortage of skilled labor. Now they are operating at 74%, leaving little room to expand.

The National Tooling and Machining Association warned recently that if Congress chooses to build more military machinery, the work may have to be done at the expense of things like airplanes that we export or machinery used at home to increase productivity.

In May of 1980 the Conference Board index of classified advertising was at 120% of normal. This at a time when unemployment was at 7.1%. This shows a tremendous gap between the supply of skills that are needed and the demand.

Opportunity

Although the picture looks pretty bad, to me this presents tremendous opportunity for people like us. This is a picture of forces converging in a growing economy looking urgently for people ... people who can manage, guide, control, work in and benefit from the new investments ... people who can make the investments productive. The economy will grow but the population will not. But this population does not have the skills for the jobs that exist today -- nor the skills to serve a growing economy.

THIS POPULATION DOES NOT HAVE THE SKILLS FOR THE JOBS THAT EXIST TODAY

So we have two options:

1. We can go on as we are, gradually losing ground to more productive foreign economies. If we do, today's standard

of living will become a legend, like the Wild West, and we will lose our position as a world power, for military power cannot be maintained without a strong industrial base behind it.

Or,

2. We can work together to assure the human resource that is needed. In doing that, we can provide economic opportunity for all; and we can assure the future of our society.

How are we going to do that?

- By teaching ourselves, our students, and our children that a sound, productive economy is what pays the bills for all that we consume and all the social programs we have, and

- By making schools the genuine source of economic and social opportunity they are meant to be.

The First Steps

- To see that all educational experiences -- curriculum, instruction, and counseling -- are geared to creating economic independence and an appreciation of the dignity of work well done.

AN APPRECIATION OF THE DIGNITY OF WORK WELL DONE

- And, I think we need to bury the hatchet between career education and vocational education because career education is probably your greatest friend.

We know that showing students how adults use what the students are learning greatly improves retention. Such a curriculum change will bring you much better-prepared students.

If we provide career awareness in the early years and career exploration in junior high while we see to it that children develop a strong grasp of reading, writing, and math skills, children will be able to make informed decisions about their high school and college programs -- with many more choosing vocational education programs -- many more than have in the past.

To do this, all teachers and counselors will need much closer contacts with business people. Business must reach out to educators and show them that today's manufacturing and business work brings many kinds of satisfaction. Business needs to show teachers and counselors the value of the artisan and the pride people have when an intelligent head guides well-trained hands in beautifully crafting something other people need and respect.

We need to give each 18 year old a marketable skill. We need to communicate to our minorities and economically disadvantaged youth that entry-level work skills are just that -- skills with which to begin. They are also a source of income to live on and a chance to learn and study for more responsible jobs.

ENTRY-LEVEL SKILLS ARE ALSO A CHANCE TO STUDY FOR MORE RESPONSIBLE JOBS

To ease the school to work transition we need to make vocational education more directly relevant to jobs. That means linking schools and industry in curriculum development. Business trainers begin their program design by finding out from line supervisors what their employees need to know. Business needs to give teachers equal access to those line supervisors. This is not to suggest high school students be narrowly trained.

I agree with Frank Schiff, Vice President of the Committee for Economic Development and Former Deputy Undersecretary of the Treasury for Monetary Affairs, that we must "develop effective, multi-track curricula imparting vocational and professional skills as well as providing cultural enrichment to widely differing age groups and proficiency levels." I spent some time in developing our vocational education policy by reading a book called The History of Vocational Education, and I discovered that in 1901 and 1907 and 1913 the business community was telling the vocational education community that they do not need people trained narrowly, that they need the person who is widely educated, broadly cultured, and also trained in skills. Because, that is what successful industrialization takes.

THE PERSON WHO IS WIDELY EDUCATED, BROADLY CULTURED, AND ALSO TRAINED IN SKILLS

How can educators adjust their curricula if they don't know the shape of the human resources demand curve?

Business people are afraid to reveal their long range plans. They have been burned by information given to government agencies, and I imagine you have too. They don't want wiley competitors

learning too much, and they don't want to make false promises. But trade associations may well be able to consolidate data so no employer is exposed and provide it to the schools. The private industry councils are beginning to get such information for CETA planning programs.

If the education system is asked to expand its responsibility beyond the school-age population to include training the unemployed, helping people upgrade their skills, and educating those who want and need a career change, we'll need more and better paid vocational educators; and we'll need to open schools 16 hours a day, 6 days a week.

NO PLACE WHERE BUSINESS PEOPLE AND EDUCATORS MEET REGULARLY AND INFORMALLY

The biggest obstacle to all this, which I certainly have not yet solved, is that there is no place where business people and educators meet regularly and informally. We don't hang out together - continually exchanging ideas and concerns and the state of the art of the work we do. That is something that I would like very much to work on with you. And I think it is something that chambers of commerce as a whole organization need to find a way to accomplish. Developing that contact and understanding should enable us to overcome the fears we have had in the past and may well be a suitable task for trade and professional associations, yours and mine.

Our information society depends on our education system. We need you! Business can and must support education with understanding of the difficulties education faced for our society in the last 20 years. Now business asks for change at a time when work itself is changing.

The need is urgent. Let us begin today. And let's try to work it out together to save our society.

Fact Sheet

ECONOMIC RECOVERY AND EDUCATION
by Madeleine Hemmings
Conference Proceedings, April 1981

Since 1972, the average wage earner has seen spendable earnings decline 15%.

Since 1978, our national productivity growth has been negative.

The labor force will grow at an annual rate of under 1.5% in the 1980s and will slow to less than 1% during the 1990s due to the decline in the birth rate.

Among 18-24-year-olds, there will be an estimated population drop of 8-16% and an increase in the percentage of minorities and people whose native language is not English.

Among 25-44-year-olds, there will be a population increase of 30% and this group will constitute about 53% of the work force. Competition for jobs will increase greatly.

Among those over 55, the life expectancy continues to rise dramatically. By the year 2000, the number of those over 65 will have increased 10 times (compared to 3 times for the general population). Many will be unable to afford or will not want to retire.

Among women, 44 million are in the labor force and the majority of women under 50 expect to work most of their lives. They are looking for equal opportunity for access to responsible jobs.

Possible trends: increased competition for entry level workers; higher wages for less experienced workers; increased competition with American productivity from cheap foreign sources.

Labor shortages: lack of replacements for journey workers in the commercial construction trades which account for 3 out of every 10 skilled workers; a need for 210,000 machinists plus 196,000 machine operators by 1990 while only 2,300 are completing apprenticeship programs each year.

For each of the next 10 years the U.S. will require: 10,400 tool and die makers; 58,000 machine repair persons; 35,000 inspectors; 9,00 industrial computer programmers; 7,900 industrial system analysts; 11,000 drafters; 23,000 engineering technicians.

Acute demand for: nurses — there were 84,000 vacancies in 1980 and an expected 125,000 vacancies by 1985; taxi drivers — one comapny offered $50 to the first 100 respondents to its advertisements; computer specialists — salaries range from $25,000 to $70,000; model designers — pay is $21.00/hour; secretaries — the shortage is about 80,000 and will grow to 250,000 by 1985.

Employers' problems: Conoco loses skilled people as quickly as they can train them; Pacific Telephone has secretarial jobs ranging from $22,000 to $28,000 remaining open for months; the Massachusetts High Technology Council says employees are unavailable for the 100,000 jobs local technology-based firms are creating; defense-related aerospace and aircraft industries are only operating at 74% of capacity; worker shortages are prevalent throughout the defense industry so that military machinery can only by built at the expense of airplanes that we export or machinery used to increase American productivity.

IMPLEMENTING STATE PLANNING

BYRL N. SHOEMAKER	**Director for Vocational Education, Ohio**
NANCY S. EVANS	**Sex Equity Coordinator, Ohio**
CHARLOTTE C. CARNEY	**Sex Equity Coordinator, Florida**
DONNA K. BOBEN	**Sex Equity Coordinator, Minnesota**

The Sex Equity Coordinator's Role in State Planning

BYRL N. SHOEMAKER

Sex equity in vocational education will continue because economic facts, figures, and reasons underlie this social change. In the long run, career education also supports sex equity in vocational education by causing all students to consider all occupations. Coordinators should join in the struggle to obtain extensive vocational education funding so that they can acquire a fair share of a big pie (rather than a fair share of a small pie). In Ohio, the State Board of Education has defined adequate vocational education to mean no less than 12 programs and 20 classes with enrollment of 40% of the student base during the last two years of high school.

In Ohio, the Sex Equity Coordinator participates in orientation meetings that are held all over the state for local administrators. As a result, sex equity is infused in local educational area plans. The state plan also includes sex equity in its objectives as well as in the evaluation process. Evaluation processes include a program review for improvement, development, and expansion. Every five years, an in-depth review is performed with local committees as well as by members of the state staff.

Even if the state director is supportive of sex equity in vocational education, it is crucial to have a coordinator who is responsible for focusing on the full sex equity issue. He or she can

THE COORDINATOR SHOULD NOT SERVE AS A POLICEPERSON BUT RATHER AS A MOTIVATOR

supply technical competence, determine what still needs to be done, serve as a conscience, and act in a monitor's role. The coordinator should not serve as a policeperson but rather as a counselor, coordinator, educator, and motivator.

The coordinator must work through existing staff so that staff members actually change their minds and/or share the philosophy of equity. Otherwise, staff will revert to their previous practices when they are not being watched. Change can best be accomplished when peers, parents, and teachers accept sex equity in vocational education. Progress in terms of changes in enrollment data will come slowly after educators change their concepts and attitudes. Even in Sweden, where sex equity was pioneered, there has been only a 15% change in nontraditional occupations. Ohio plans to increase nontraditional vocational education enrollments by 2% per year annually through the 1980-85 time period. The educational leadership in Ohio has selected this mission for moving toward the economically sound and socially essential goal of achieving educational equity.

Techniques for Infusing Sex Equity into Local Vocational Education Programs

NANCY S. EVANS

In order to find ways to influence in-house decisions that impact on local sex equity in vocational education programs, Ohio's sex equity coordinator organized an in-house advisory committee. The members of the committee represent 13 vocational education service areas. Each member devises a plan of action for his or her area for use across the state by consultants and teacher educators. (The teacher educators are the Ohio leadership team; they develop programmatic thrusts that help to implement the educational change process.)

The advisory committee is also responsible for developing strategies for use during inservice training sessions. Inservice trainers receive techniques for dealing with local supervisors and teachers. Their training sessions begin with developing awareness of sex equity and are not concerned with implementing changes into the basic curriculum.

Ohio funds ongoing vocational education programs through the local districts and also supports special projects. The state develops guidelines and rules and then allows the local education agencies (LEAs) to decide what they plan to do with the state money within those guidelines. Each local planning district is responsible for incorporating the required sex equity statements from the state plan into its local sex equity plan of action. For each goal the LEA must develop objectives, timetables, and evaluation processes for meeting each goal. The coordinator surprised a number of the local districts when she followed up the second year and asked for documentation as to how these goals were met.

SHE SURPRISED A NUMBER OF LEAs WHEN SHE FOLLOWED-UP THE SECOND YEAR

In an effort to assist LEAs in developing their plans of action and meeting their goals, the coordinator has funded a technical assistance project directed by Jim Knight and Cindy Kohles at the Ohio State University. This project sends out information to the LEAs, and specialists are available to assist LEAs in designing plans that will meet state evaluation criteria. Project staff teach LEAs how to improve enrollment statistics and implement recruitment strategies so the LEAs can achieve success in their local communities.

In addition to the coordinator's evaluation of the LEA plans, there is the five-year evaluation system. Sex equity is infused into each area (curriculum, students, personnel, equipment, and support services); and each program is evaluated.

A third party evaluation assessed the success of Ohio in implementing the public law regarding special populations. The evaluation of placement reports, the state plan, follow-up reports, VEDs data, and job demand provided information for the analysis, which was included in the state plan accountability report. Special plans are being developed for areas of weakness. The effort for displaced homemakers has grown from a small $750 commitment to a strong, 26-center, $900,000 program that is based in the adult education system.

The Title IX self evaluation review problem has been improved by dividing the review into five parts. All 800 LEAs in Ohio report on one of the five sections each year. The state plans to develop more exemplary models that can be infused

into the total system so that all special populations are served through vocational education in Ohio.

Policies and Services for Displaced Homemakers in the State of Florida

CHARLOTTE C. CARNEY

State planning to serve displaced homemakers in Florida began with much discussion: some felt that the state was already serving displaced homemakers through regular programs; some suggested spending only one dollar; one identified program did not conform with the rules and regulations concerning displaced homemakers. However, the state has overcome difficulties and has allocated a $200,000 budget.

A needs assessment, that consisted of 22,500 completed phone calls, resulted in steps to design ten unique model projects; the state of Florida was found to be too large and diverse to use a single model. In addition to the subpart 2 monies, a set of training models (modules), which address the social and economic needs of displaced homemakers, have been developed under objectives for guidance and counseling. Then, the modules were evaluated throughout the state under objectives for personnel development.

All local projects must serve male as well as female displaced homemakers of all age groups. In addition, project plans must include a nontraditional component, collect follow-up data on those served, and submit regular reports to the Division of Vocational Education. The periodic reports make it possible to monitor progress and identify difficulties before they get out of hand. However, there is a need to continue to strengthen evaluation procedures.

Florida has a state act which serves displaced homemakers; and, therefore, the Department of Education works closely with other state agencies that are serving this target group. To enhance linkage and avoid replication and/or supplantation, these agencies formed an advisory committee which draws from the State Department of Health and Rehabilitative Services (HRS), CETA, and Title I (Higher Education). This committee assists in developing the displaced homemaker portion of the state plan, reviews local educational agency proposals, and assesses accountability reports. As

a result, displaced homemaker programs receive reports on the accomplishments of each group.

THE EFFORT TO GIVE INFORMATION TO ALL PEOPLE REGARDLESS OF THEIR ROLE

One practice that has found success in Florida is the effort to provide information to all people, regardless of their role in education. A local program was losing its funding source and had contacted the local school district regarding funding. When the administrator discouraged efforts to obtain funding, the program director contacted the Division of Vocational Education for information. With this information, the program director was able to present the proposal to the local board of education. The board suggested that the administrator work with the program director to apply for the funding. Hence, the dissemination of information resulted in overcoming an administrator's resistance, gaining local board support, and funding of a worthwhile project.

Change Theory and Techniques for Institutionalizing Sex Equity in Vocational Education

DONNA K. BOBEN

The politics of a sex equity coordinator are often directed toward survival. In order to survive in a situation with limited time and energy, it is necessary to concentrate on those people who are in an appropriate stage of change. Death and dying research has identified the following seven steps on the change continuum:

action
↑
acceptance
internalization
rationalization
blame
anger
disbelief
shock

People should understand that it is OK to be at any particular point on this continuum; however, those people at the bottom, emotional stages often are most resistant to change and those people at the upper stages are more inclined and ready to take action. Therefore, it is wise to identify

people at the upper stages of this continuum when you are looking for people to assist with sex equity work.

Political power can be acquired by establishing contacts and holding policy-making positions. Consider becoming a consultant to the state plan ad hoc committee. In this committee, it is possible to suggest sex equity objectives for the state plan and also to make further contacts and identify additional networks. The Minnesota coordinator developed a relationship with the Chair of the Vocational Subcommittee of the State Board of Education and consequently attained concrete power. She was able to stipulate that all Minnesota vocational schools develop five-year plans of action. Further, these plans will be evaluated during the five-year, on-site visitations to ensure that they are being implemented.

PECK AWAY AT RESISTANCE LITTLE BY LITTLE BUT REALIZE YOU DON'T WIN ALL THE TIME

It can also be useful to hang out your credits (e.g., let people know you've maintained a successful marriage) when it can help achieve a goal. You can often peck away at resistance little by little; but, realize that you don't win all the time.

Develop places and times to talk with your state directors. Pin down commitments from the state level and then set up specific times to use these commitments. In Minnesota, the sex equity coordinator was able to attend meetings for the departmental managers. The coordinator suggested that each manager share responsibility for writing sex equity goals for his/her section of the state plan. As a result of the prior discussions and commitment, the state director then requested that the managers carry out this suggestion.

The coordinator volunteered her time to work with the managers and their writers to aid them in accomplishing this task of writing sex equity goals. She helped develop objectives so that specific steps and more action would be taken in achieving the general sex equity goals. She worked to establish good relationships with the state level people by providing both technical assistance and hand-holding, as required. Consequently, sex equity is infused into the state plan and will continue to be a goal even if funding is decreased.

THE POLITICAL PERSPECTIVE ON REINDUSTRIALIZATION

ROBERT T. EDWARDS	**Assistant State Director, Pennsylvania**
BARBARA A. BITTERS	**Sex Equity Coordinator, Wisconsin**
LOYDIA JOHNSON WEBBER	**Sex Equity Coordinator, Georgia**
BEVERLEY M. POSTLEWAITE	**Sex Equity Coordinator, Washington**

Problems and Predictions for Sex Equity in Vocational Education

ROBERT T. EDWARDS

We recently had public hearings on our 1981-82 state plan, and we had a lot of favorable testimony on what we're doing in vocational education. It was interesting to note, that within the vocational group and outside of the vocational group, everyone wants his or her claim on the dollars. If you take that to the national level, I'm sure you can appreciate what must be going on there. I think, that when you have people going off all by themselves and not coming together for a uniform cause, it does create problems. I also read in the AVA journal (American Vocational Association) that special interest groups have requested claims on the basic grant in the reauthorization that total over 200 percent. You know what the Senate did with the '81-82 cuts, and I believe I heard last night on late TV that the House went with no cuts. What that means is a lot of manipulating between the two. Maybe we could come out of it with a 10% to a 15% cut, rather than the 25% that is proposed.

THEY NO LONGER FEEL THE FEDERAL GOVERNMENT CAN SUPPORT SOCIAL CONCERNS

We must also realize that there are conservative organizations in power now. I hear these organizations saying that they no longer feel that the federal government can support social concerns. I hear them also saying that they'll probably throw this obligation back to the states. That can be good or that can be bad depending on which state you're from.

The state directors met in Maine in September for the purpose of working on a position paper on reauthorization. We met again at the AVA in New Orleans; and in two weeks, we're going to meet again in Virginia. Addison Hobbes chaired the group that talked about sex equity. The group proposed that sex equity remain as a national priority, but it should be changed to equal access and include all of the areas and not just sex equity. Also, the feeling was that there should not be a percentage or a dollar set-aside nor should there be a mandate for a stated position. There have been a lot of problems in states with set-asides and percentages, because the states do not have the flexibility to operate according to their needs.

A state that has a commitment to equity from its state board, its secretary of education, and its state director and staff will not eliminate sex equity when it comes to budget cuts. They realize that equity is a must for quality vocational education. I say that because of the experience we've had in the past three weeks. Our legislature returned our state budget for '81-82 with a $400,000 cut from what we're operating with this year. With the 50% match, that means we're going into a re-budget with an $800,000 deficit; and that hurts. We looked at our federal budget, and we took what we'd called the worst budget with a 25% cut. When we did this, I suppose, we could have cut back to one sex equity coordinator, as required by the law, and furloughed the other five. We could have cut the $800,000 of additional state and federal dollars that we put in the budget as incentives for the equity program and used only the $50,000 that the law requires. In Pennsylvania we feel that equity is not just a federal mandate, but it's a state commitment. We need to insure equal opportunities in order to provide quality vocational education.

WE FEEL EQUITY IS NOT JUST A FEDERAL MANDATE BUT ALSO A STATE COMMITMENT

We include our sex equity coordinator, Jackie Cullen, in our vocational management team. In addition to the equity coordinator, the team consists of the state director, the assistant state director, our three division chiefs, our CETA coordinator, our research coordinating unit and our post-secondary education coordinator. We meet every Monday morning, and we feel this is our means of coordination that mainstreams equity not only throughout our entire staff but through our vocational program. We have communicated this

strong commitment to equal opportunity in vocational education to the local level. As an example of the effect it had this year, we've conducted 56 on-site OCR (Office for Civil Rights) evaluations. We did not receive one complaint, but we have received many letters of commendation for the way the staff has helped in supporting the local districts. There is a conservative bunch of administrators around also, who are playing a game. The players in that game feel that regulations are a harassment, and they are betting that the present administration in Washington wants to get rid of anything that harasses agencies. They really feel that equity regulations are a harassment; and, therefore, it will only be a matter of time until sex equity, race equity, the handicapped, and this non-traditional stuff will go away.

Byrl Shoemaker mentioned, yesterday, that our local administrators know there's a strong commitment from the state level. Therefore, they won't write us and tell us about their complaints. But they will write their legislators in Washington. The legislators were the ones that voted for sex equity mandates; but they will write us a letter and say, "What are you harassing those local people about?" It's interesting.

IT'S NOT YOUR PROBLEM: IT'S OUR PROBLEM

Regardless of what comes through as the '81-82 cuts or what we get as new legislation, we need to work together; and I use that word we. It's not your problem; it's our problem, and we have to work together on it. We have to work together to be certain that there are quality vocational education programs with equal opportunity. We must be positive, and we must smile a lot. I think we need to remember that there are people that we work with who are at the various seven steps of change, that were presented by Donna Boben yesterday. It's key for us to remember that. If we do that, I think we'll have a better tomorrow.

A Position Collage of the U.S. Congress, Advocacy Groups, and Professional Associations

BARBARA A. BITTERS

Thank you. Good morning. My comments on reauthorization positions are not hard and fast. Advocacy groups, federal government, and professional associations' positions are going to be changing from day to day, week to week. Positions will change as conditions change; therefore, I want to preface these comments by reminding you that the "position collage" I'm going to verbally portray for you could change very quickly.

I would like to begin by telling you about a meeting with Chris Iverson, who works for Senator Orrin Hatch. I was on vacation a week or so ago and went back to Washington to visit my friends. I had an opportunity to go and visit Chris Iverson with several other people, including Eunice Jones, Ed Roberts, and Marie Mayor. We went to talk to her about the perspective of Congress on reauthorization. We asked her, "What do you think the perception of sex equity in vocational education is on the Hill? What do they think of sex equity coordinators? What do you think the chances are for legislative language promoting sex equity in the vocational education reauthorization?" She answered that the perception on Capitol Hill was that sex equity coordinators have been running around their various states forcing girls to take nontraditional courses and programs. This included forcing girls to take higher mathematics. Additionally, she noted that counselors have been sex-biased in the past by tracking students to what they considered sex-appropriate courses. She was very concerned that the trend may now have reversed, and counselors are biased toward emphasizing nontraditional options.

We must take this perception and this information very seriously. It's very clear to me that people in Congress do not know what our daily professional activities are like or what changes are reasonable to expect in four years. We need, somehow, to give them this kind of information. We need to let them know how much we try to balance traditional and nontraditional options and promote informed choice based on full disclosure of options. Chris Iverson was also very concerned with the devaluation of full-time homemaking as an occupational choice for girls. I agreed with her that full-time homemaking is a very important choice, so much so that we want men to choose it, too. But I also stressed that teachers and educators have a responsibility to explain why full-time homemaking

THE DEVALUATION OF FULL-TIME HOMEMAKING AS AN OCCUPATIONAL CHOICE FOR GIRLS

THE REALITY OF HAVING NO WAGES AND NO PENSIONS

is a different occupation than wage occupations. The fact that girls are, perhaps, vulnerable to death, divorce, or a sudden change in their life situations suggests that they must be prepared for these events. I talked to her about the reality of being ineligible for Social Security and having no wages and no pensions.

She asked me for a list of vulnerabilities people face when choosing full-time homemaking. I was surprised; because, it sounded like she'd never heard these things before. I sensed that, for her or for Congressional representatives, nontraditional may still mean women who work outside of the home no matter what their job is. All of this means that we must really get information to our representatives about the need for sex equity, what we've been able to accomplish so far, how we have done it, and what remains to be accomplished. I feel that the same economic information used in 1976 will have to be repeated for the Congress.

My second meeting in Washington was a forum that the NACVE/NACWEP (National Advisory Council on Vocational Education/National Advisory Council on Women's Educational Programs) group held to release their study, Increasing Sex Equity in Vocational Education. Many of the educational groups that I had come to know in Washington were there talking about the possibility for sex equity provisions in the re-authorization. I have some good news and bad news about their positions. I think that sex equity coordinators have been very fearful that no one will advocate for us or no one will present the successes that we have had in sex equity and the hard work we've put in. This perception led a number of us to try to collect information about what we had been doing so that it would be available prior to re-authorization.

I think the good news is that almost every major advocacy group has addressed sex equity or equality in general. Many of them have come out very strongly in support of sex equity. For instance, the National Coalition for Women and Girls in Education (which includes, among others, the Federal Lawyers' Project, the Project on Equal Education Rights, and the National Displaced Homemakers' Network) is still advocating, as they told us in December, a 15% set-aside for sex equity. They feel that we've made a good start, but we need more money for more programs.

There's a new group in Washington called VERA, the Vocational Education Reform Association. This is a coalition of civil rights groups representing concerns regarding race, sex, and handicap. They did not let us know what their position would be, but I would guess that their position will be to have strong provisions for vocational equity (race, sex, and handicapped).

The National Governors' Association was represented by a woman named Joan Wills, who suggested that all federal funds ought to serve populations that are vocationally-at-risk. She is, in essence, saying that all federal vocational funds should go to those populations which are currently referred to as special populations. Gene Bottoms of the AVA believes that if all federal vocational money were going for the special populations as we know them now, we would have dual systems of vocational education. One system would use state and local funding to serve the regular students, and one would use federal funding to serve the vocationally-at-risk.

BOTTOMS BELIEVES WE WOULD HAVE DUAL SYSTEMS OF VOCATIONAL EDUCATION

You're probably most familiar with the AVA positions, because many of us are AVA members. As you know they had a long, involved, two-year process to develop their re-authorization positions. At this time, they are supporting a full-time sex equity coordinator provision without the $50,000 administrative set-aside. At one point, they were talking about having a separate equity title in the legislation as opposed to the current provisions, which are infused throughout the act. They wanted to get $1.5 billion for the equity title alone. Whether any of this is realistic, we don't know.

The National Commission on Employment Policy has a new report, Increasing the Earnings of Disadvantaged Women. The Commission report makes recommendations on sex equity in vocational education and in CETA programs. They support the current sex equity provisions and suggest that the Department of Education in Washington, D.C. needs to have more sex equity staff to offer the kind of leadership that we need. The Council of Chief State School Officers has come out in support of sex equity and the coordinators. They're concerned about duplication of effort with regard to sex equity, but I am uncertain as to where they perceive duplication exists. NACVE

and NACWEP do not have firm positions, but they do have principles that will support sex equity in vocational education. The State Directors do not have a final statement, but they are taking more of a comprehensive equity or equal access focus, as you heard. The Office of Vocational and Adult Education has recently circulated proposals for vocational education block grants with few requirements of any kind.

I have just rattled off a whole list of national advocacy organizations that feel they have a vested interest in vocational education, and they'll be trying to influence what happens in the reauthorization. The bad news I referred to earlier is that the Reagan Administration may not listen to any outside groups. We need to try to strengthen our state advocacy groups and networks in preparation for a larger state role in determining vocational education policy. We're in a unique position to explain and to sell, if you will, the great advantages and opportunities that exist for women and nontraditional students in vocational education.

THE REAGAN ADMINISTRATION MAY NOT LISTEN TO ANY OUTSIDE GROUPS

I'm concerned that many women's organizations have bought into a couple of articles that have been issued recently. The articles propose that women and girls will always do poorly in terms of their potential earnings, no matter what vocational programs they are in. The articles advocate that every girl should go to college. I disagree with this position; every girl is not going to be able to go to college, nor is it true that when they go to college their earnings potential is necessarily greater. The opportunities for skilled jobs via vocational training are very good for women in my state.

We have an important role: to promote vocational education, to promote sex equity in vocational education, and to reach out in our states to engender support to continue our work and contribution to vocational education.

The Role of Georgia's Vocational Education Programs in Meeting the Needs of Minorities and Women

LOYDIA JOHNSON WEBBER

For some reason, Georgia has been a very visible state during the last four years. I don't know whether it is the geographic location of the state or if it relates to the fact that it was our president's home state. But I guess the climax of all the visibility for Georgia's vocational education programs for me was in having the opportunity to work with different advocacy groups.

Last July, I was in Reno attending the annual meeting of the National Network for Coordination of Curriculum in Vocational-Technical Education. As you know, Reno is three hours behind Georgia. So, at five o'clock one morning, my secretary called and said that Dr. Freund, my vocational director, would like to talk to me. I thought it was interesting that he needed to talk to me that early in the morning; but, of course, it was eight o'clock in Georgia. When he got on the phone, he said, "Loydia, I want you to come home." Those of you that have stayed with me know that I really don't think very well early in the morning. So, I simply said, "You want me to come home?" He continued, "Yes, I need you to come home. All hell's broken loose in Georgia." So, I said, "No problem; I'll catch the next flight." He went on to tell me that the ACLU had just published this well-printed report entitled, The Unfulfilled Promise. He said we had to prepare for the reaction to it. That was about the extent of the conversation; so, he hung up.

So, I got up at five o'clock and proceeded to pack my things. But Dr. Freund called back about an hour later. Fortunately, I can think a little better at six a.m. This time he said that things were okay; he'd worked it out. At the time I had a very competent person, Dr. Susan Phibles, who was working on my staff. Dr. Freund said, "Please ask Sue to prepare me to meet the news media. I think I will have the television stations and radio stations in my office by 9:30. If you can have Sue get me ready by 9:30, you can stay in Reno until the end of the meeting."

The real issue with The Unfulfilled Promise was the complaint that Georgia was not serving the needs of minorities and women. Ginny Looney was the author of that publication. I've worked with her in many different ways — many were very positive. But we've also disagreed on issues during the last three years. Ginny is funded through a Ford Foundation grant to monitor vocational equity

in the state. I think she's done an excellent job. But the statistics that she used in this publication did not all come from the Georgia Department of Education, Office of Vocational Education.

WHETHER VOCATIONAL EDUCATION IN GEORGIA WAS SERVING MINORITIES AND WOMEN

The report's main concern was whether vocational education in Georgia was serving minorities and women. Three subpoints in the report were that: (1) Georgia was not providing enough incentive monies to the local systems; (2) there was not representation of minorities and women on vocational advisory councils; and (3) the summary in the state annual plan did not give a clear description of the actual results of the sex equity plan with respect to the ten functions.

We, in the Georgia Office of Vocational Education, didn't agree with some of the issues that Ginny pointed out in the report; but some of them were true. We decided that we were going to use the report to our advantage and build on the things that she had recommended. By the time of the report, we had put in place what we felt was a very good organizational and functional plan for vocational equity in Georgia. We had struggled and arrived at the point where vocational equity was becoming an integral part of the total vocational education system. It is now similar to the Ohio system that Nancy Evans described yesterday.

However, we did reevaluate the amount of money that was being allocated to the LEAs (local educational agencies) through small grants. We were able to make a change and put in over 300,000 additional dollars this year. So, I look at this point as being a very positive change. Secondly, we now have what we think is a good monitoring system for [illegible] advisory councils.

I talked to many of you as to how you did your summary reports. I do appreciate the time you spent and the feedback you gave me. Everyone said that Georgia's report was okay, and some of you said that I had gone to a greater extent than you had in your states. So, once you said the summary report was okay, I didn't worry about it; I told Dr. Freund that it was all right. So we really didn't deal with that anymore.

We took the perspective that this report represented the monitoring of just one person and that most others would support our position. We felt our system was a very good state plan since it

incorporates all vocational programs. Furthermore each LEA is responsible for developing a vocational equity action plan and an evaluation system that goes with the plan. Georgia also holds a vocational equity workshop each year. Since each division of the state's staff is involved in developing the state plan, we decided to go back to each of the divisions and see what we could do to address the issues. I guess you know we performed this review. However, despite all these strong points that came out of the review, we still had a major concern in the back of our minds: our state plan had not yet been approved. Regardless of how well we were doing, we still had to bring $19.5 million into the state.

WE STILL HAD TO BRING 19.5 MILLION INTO THE STATE

Based on our accomplishments, I think we felt somewhat secure all along that our plan was going to be approved. However, we also realized that the approval of Georgia's plan had turned into a very sensitive issue; and we were caught right in the middle of it. The Unfulfilled Promise report was bringing up many issues. The U.S. Office for Vocational and Adult Education (OVAE) would have to review these issues before they could approve the plan. As it turned out, we did not get our state plan approved until just a few days before Dr. Taylor left OVAE. But all our efforts paid off, and we passed the test.

If you have some other questions, I'll be happy to answer them. But before I close, I want to thank you for your support during the time when I was developing ways to cope with the visibility caused by The Unfulfilled Promise. I really do appreciate your efforts and calls asking if there was anything you could do. Thank you.

An Outline of Unresolved Sex Equity Issues

BEVERLEY M. POSTLEWAITE

There are still a few issues that sex equity in vocational education has not adequately addressed. I would like to outline them for you this morning.

For instance, American Indian women are at the bottom of the economic ladder. Asian/Pacific women have the highest labor participation rates, and yet they earn $0.44 to the dollar of male earnings. They also show high educational attainment. Black teenage females are 41.7% unemployed. There is little or no research on Hispanic women. We don't even know where they are. There are few role models, and the barriers have not been identified. Physically-disabled persons are often overprotected, uninformed, and may be de-motivated.

Migrant workers are usually denied health and life insurance, have little income security, and often don't speak the language to get into a vocational program. For refugees, language is a problem. They need homes, skills training, education, and jobs. Rural women are excluded from federal, state, and local laws protecting workers. Female offenders need to build skills. The elderly have barriers to hiring, access to training, and to promotions. Women business owners are having a hard time getting started and a hard time expanding. They lack management training; there is no technical assistance; it's hard to get financing; and sex stereotyping remains.

There is no recognition for the economic contribution and experience of homemakers. We need to think about giving credit for homemaking and volunteer activities. Displaced homemakers have a great need for access to short-term skill training. They often have only two to six months to get a job. Household workers should receive minimum wages and social security. Little has been done to pursue this.

For some reason, sex discrimination, sex bias, and sex stereotyping still exist. Women continue to avoid math, science, technological and mechanical skills. Over half of the women workers are in 20 out of the 441 jobs in the census classification system. This year, there is equal representation of male and female students in vocational education. However, this is not true in administration and staffing of vocational education. Comparable education and training of males and females is here, but it is not producing comparable jobs and comparable pay for the sexes.

COMPARABLE EDUCATION AND TRAINING IS NOT PRODUCING COMPARABLE JOBS AND PAY

Although vocational education is off to the right start in bringing equality and fair treatment to males and females in our country and in recognizing the need to move target populations into a more productive work force, there are many issues that have not been addressed. We still have a long way to go.

COMMENTS FROM THE STATE DIRECTORS OF VOCATIONAL EDUCATION

LEVENDOWSKI EDWARDS SHOEMAKER CARTER

HOBBS SHIGETOMI HALVERSON

J.C. LEVENDOWSKI

Recently, I had the opportunity to attend a legislative policy seminar sponsored by the American Vocational Association. The purpose of the seminar was to discuss federal vocational education legislation reauthorization activities, but the major item of interest was President Reagan's proposed federal funds rescissions for Program Year 1981-82.

The administration's efforts to reduce the federal budget might be described as a "fly paper" approach to budgeting. You hang fly paper, or a proposed rescission, on the wall to see how many flies, or opposition groups, are attracted to it. The more flies, the less the probability the rescission will be finalized. It is as simple as that! If you feel that the proposed rescissions will have a negative impact on your programs, I suggest that you inform Congress of your concerns.

There is no question that the administration is employing the "distribution of dissatisfaction" philosophy. This means that all programs share in the budget reductions; and thus, everyone is dissatisfied with the proposed rescissions. It makes it difficult to generate any real opposition to any single rescission proposal when all of the programs are being treated in a like manner. It appears that vocational education, like all programs, will have to experience an across-the-board reduction of 25%. There are some vocational

educators who feel that the overall reduction for vocational education could be less.

As sex equity coordinators, you should be looking for new job opportunities for women. Don't overlook the use of your state's Office of Economic Development to obtain information about new business firms that will be locating in your state and the types of job opportunities that these firms will bring with them. With this information, you can inform the various groups interested in promoting job opportunities for women by assisting them in identifying existing training programs or helping to establish new ones.

As I listened to your discussions the past several days, I have detected a note of disappointment in the lack of progress you have made over the past four years. I think you are being too hard on yourselves. Look at the area of civil rights. It has taken leaders in this area over 30 years to make significant gains. Most of you have been serving as sex equity coordinators for less than four years. This is a relatively short period of time to bring about changes in our attitudes about women and their place in the labor force. Accept the progress you have made and capitalize on it. Focus on your successes, not your failures. You have done a good job; be proud of it!

FOCUS ON YOUR SUCCESSES NOT YOUR FAILURES

To better inform your state directors of your short- and long-term needs, I suggest that you prepare a program of work that clearly describes your program's goals and objectives and shows the relationship of your activities to the stated goals and objectives. With the possible reduction of federal funds, each activity will have to be re-examined to determine its relative merit and how it contributes directly to the program's goals and objectives. There will be a greater need to coordinate all activities to ensure the most effective use of limited resources.

Finally, if you wish to become a more integral part of vocational education, you must assume a greater role in providing equal access to minority groups, handicapped and disadvantaged persons, and older workers. The shrinking labor force will dictate that we utilize all people, regardless of race, color, or creed. This will necessitate a closer working relationship between the sex equity coordinators and the state directors of vocational education. As coordinators, you must assume a

greater leadership role in the planning, operation, and evaluation of vocational education programs and services.

Everyone should have an equal opportunity to enter and successfully complete a vocational education program, and everyone must be informed about that right. Therefore, the need will continue for personnel to address these issues. Keep up the good work!

ADDISON S. HOBBS

The leadership in local districts as well as community based organizations has action plans for carrying out equal access which run parallel with the objectives we, as state directors, and you, as equity coordinators, must covet for good relationships.

We can't worry about "turfsmanship." Those who do the job by meeting the objectives best are the people we must join hands with to accomplish our goal. If we ever get to the point where we think that we have to run everything ourselves, that nothing good can go on without us, then we are both going to be in trouble.

Finally, I'd like to say one thing. After three or four years, many of you probably have more longevity than your state directors. Eight years ago, I started out as number 50; and I'm about number eight now in terms of longevity as a state director. So, have patience with that individual, because that individual doesn't know whether he or she is part of the endangered species or not. And really, finally, I say this: let's get away from the awareness, and let's deal with the readiness and commitment. Because, everybody is aware of what we're all about. It is time to do something about solving the problems and being committed to what we do so that we can have credibility with all the groups we deal with.

HOMER J. HALVERSON

Thank you. I feel that we have a tremendous challenge. But I'm convinced that if we work together we can solve this problem. We can make the headway that we're supposed to make. So I think that's the key; we've got to work together. Thank you.

SAMSON SHIGETOMI

Thank you. I guess the Vocational Education Act provided the impetus for reducing sex bias and sex stereotyping and for providing more equal access for other minority groups. What we attempted to do was to use an existing position in my office to help our schools move in this particular direction. In addition to that, we had the state legislature come up with resolutions, which helped to promote equal access in our community colleges and in our secondary schools. And, in this way, by coming up with a commitment from the operating institutions, we can hope to have better and equal access for our students, for all of our students, in our system.

BYRL N. SHOEMAKER

I had an opportunity yesterday to speak to you. I watched something, and I want to try to make a point. I watched yesterday as the bidding went on, and it was very interesting to me. It did not follow the way I would have judged. The major investment made and the highest bidding done was in the area of power. Let me share some of my experiences and thoughts regarding power.

Right now, I've been the longest survivor in the country in the position of state director of vocational education. But let me share one of the things I've learned. Every time I have moved to a higher level position, I've found that I got a little more authority and a lot more responsibility. The amount of responsibility that I assumed never was matched by the amount of authority that I gained. I believe that people who are not experienced in administration assume a power that's not there. They think, oh, how easy it would be if, as state director, I could decree many things. Unfortunately, I can only decree about 15 percent of what

I want to see accomplished. About 85 percent of what has to happen in the state of Ohio, including sex equity, will have to come from leadership, and salesmanship, and a lot of hard work — not from power.

Now a position will give you a place to start from. It gives you a platform or, as our first speaker said here, a mouthpiece, a place to start from. What I want to share with you, however, is that the success of sex equity will not come from the position of power or from decrees. It will come from a lot of hard work over a long period of time from committed people who get the support on platforms that they may find.

As I shared with you yesterday, when the growth of vocational education in the state of Ohio is reviewed, some laws have been important. But more important than the laws has been the hard work and the long-term effort that's gone into it. I believe the same in terms of sex equity. I don't depreciate the importance of law; don't get me wrong. Without the sex equity law and efforts, the movement wouldn't be there. I don't believe that you can assume that we're all good boys and good girls; you cannot take away the laws, and take away all the forces, and find that everything will happen right. I think that's a little bit stupid, too. But, I would plead with you, once you have your movement and once you have your beachhead (for which we use the law), base the long-term efforts on the "rightness" of the cause. And build similar situations on the ability of myself as state director and all the persons on our staff, including our sex equity coordinator, to provide the leadership necessary to make the movement go.

ROBERT D. EDWARDS

I'm the one on this panel who did not survive. I held the position of acting state director for seven months and was very interested in recruiting a full-time replacement. We had a difficult time getting applicants. I found that in that seven months as acting state director, I became very humble; and I needed all the help I could get.

We have a management team that I feel works very well for us. By including the sex equity person

on our management team, we find that we're able to infuse equity into the total staff and program and that it's not just some other person's problem. I think that system works very well.

ROBERT T. CARTER

What can you say after this group has spoken? I'm going to depart from the usual, if I can get this microphone apart, because I have something to say. [*Writes words on board in shorthand.*] I share a kindred spirit with this group, because I've been in vocational education for 16 years. We have been subjected for a long time to subtle discrimination, and some that's not so subtle.

I would like to play a game with you. I would like for us to pretend that we're on television, and we're doing a TV commercial, and I'm E.F. Hutton. Think of me, first, as a person. Think of me as someone who can feel pain, who can feel joy, who knows how to laugh, who knows how to cry, who knows what it means to be poor, who knows what it's like to be part of a displaced homemaker's home, and who knows what it means to be an ex-jock and be able to take shorthand.

And for those of you who can't communicate with what I've put on the board, it's supposed to say that it is important that we stay with the issues. I think that sometimes we tend to cloud the issues with hidden agendas. It's important that we stay with the basic issues since we're dealing with something that everybody talks about now, the basics. Perhaps, it's important that we stay with the basics.

Now, I want you to think of me as a director who understands levels of frustration:

- I have a governor who is verbally committed to vocational education. He says it's good for the economy. He says we need vocational education; we need trained people. But, then, he removes our appropriation from the line item; and, we have no money in the budget.

- I understand frustration when I recieve certain phone calls: (a) I ask who's calling, and my secretary says it's from

Ginny Looney with the ACLU. (b) I have a call from United Press International; and I really don't want to talk to UPI, because I have something else to do. I say, "What's the concern?" The caller wants to know if we in vocational education provide plants and flowers to all the state employees, because she has just seen a state truck delivering flowers to the state office building.

- I know frustration when people who call themselves academic educators find something happens to the curtains (they fall down or a screw falls out); the academic educators think you ought to repair them, because you're in vocational education.

- We suffer levels of frustration when we deal with local administrators. We talk about exercising leadership and assuming initiative; and then say, "Let's get serious." The local administrators look at you with a blank stare and say, "What's his number, coach?" because they really don't know what you're talking about.

IT'S SOMETHING THAT NEEDS TO BE DONE BECAUSE IT'S RIGHT

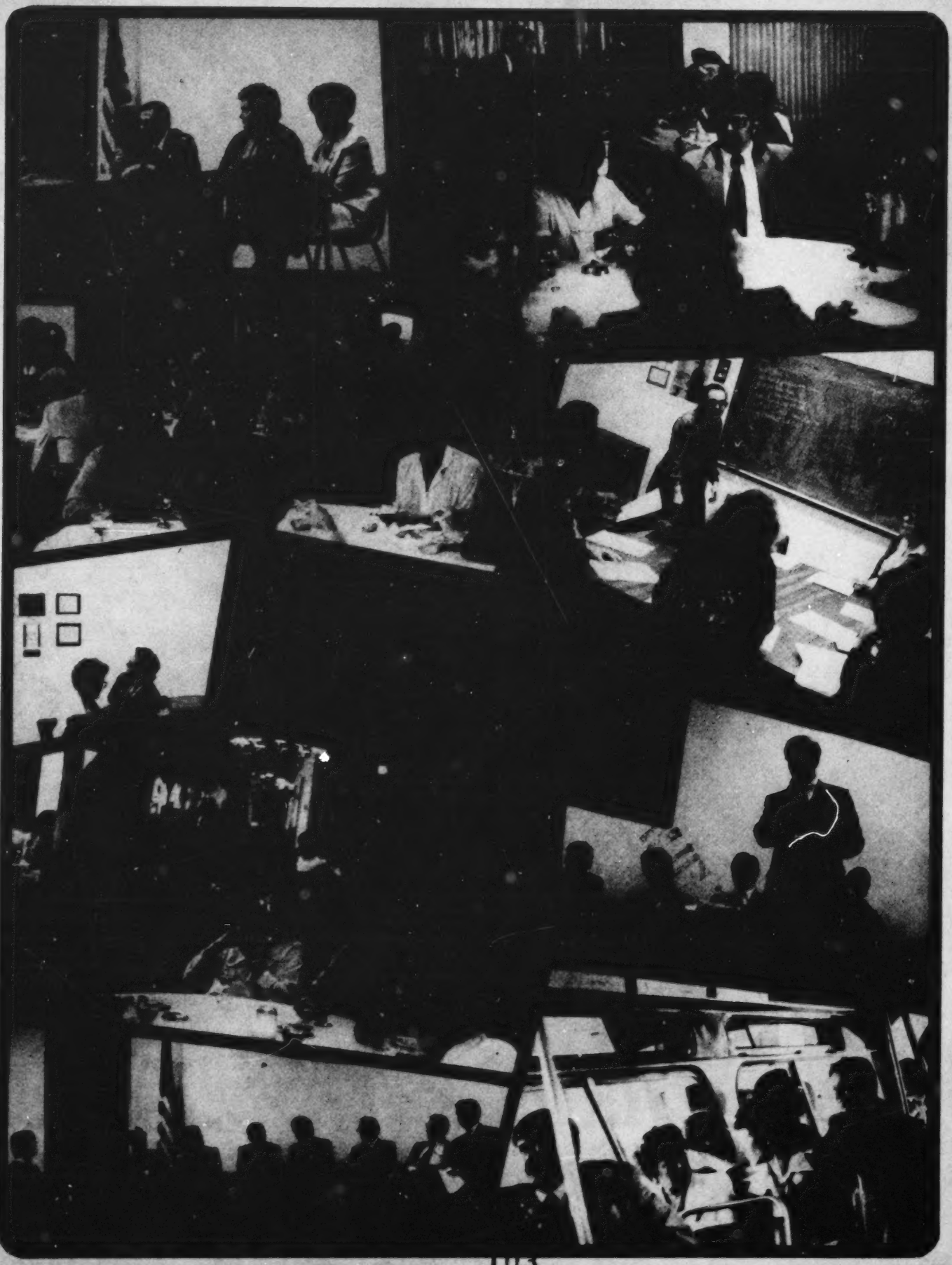
Why is sex equity important? Why do you say that sex equity is a big deal? It's not just the legislation; it's something that needs to be done because it's right. I want to say this: I don't want anyone to follow me to the bathroom, because that's where I go to read and interpret federal regulations.

Now, sometimes, I give counsel. It's usually unwanted, and it's always unheeded. But, I wanted to share with you these thoughts, that were penned by Robert Updegraff in his inimitable fashion. It's entitled, Look for More Troubles.

> Be thankful for the troubles of your job; they provide about half your income. Because if it were not for the things that go wrong, the difficult people you have to deal with, the problems and unpleasantness of your working day, someone could be found to handle your job for half of what you're being paid. It takes intelligence, resourcefulness, patience, tact, and courage to meet the troubles of any job. That is why you hold your present job, and it may be the reason you aren't holding down an

> even bigger one. If all of us would start to look for more troubles and learn to handle them, objectively and with good judgment, as opportunities rather than irritations, we would find ourselves getting ahead at a surprising rate. It is a fact that there are plenty of opportunities waiting for men and women who aren't afraid of the trouble connected with them.

And, finally, the bottom line is that we must continue to practice duck diplomacy. This simply means that you maintain a cool exterior and pedal like hell underneath. Thank you.



MATHEMATICS: THE KEY TO SUCCESS IN VOCATIONAL EDUCATION

KAY GILLILAND

Co-Director, EQUALS
Lawrence Hall of Science, UCB

Workshop Objective:

The purpose of this workshop is to develop an awareness of the reality that mathematics is the basis for many careers, especially blue collar, mathematics, and science occupations. The first step to achieving sex equity in these careers is to acquire the mathematic preparation required to enter these fields. The workshop is also designed to increase the confidence and competence of participants in performing mathematical computations and using math concepts. Participants make distinctions between what they can change in their lives and what they cannot change. The activities present career options and encourage participants to consider nontraditional options. Finally, the participants leave the workshop with information they can share with others (colleagues, students) so that the word is spread/disseminated. In short, the workshop objectives are summarized by the acronym, ACES: awareness, confidence/competence, encouragement, spread.

Workshop Procedures:

The activity called "Startling Statements" uses questions from the list which accompanies this workshop summary. The workshop leader has a color-coded set of these questions and their answers. In addition, the leader has several sets of questions on colored cardboards that have strings attached to each cardboard. The sets are organized so that all green cardboards have the same question, all red ones have the same question, etc.

Before beginning, the leader teaches or reviews with the group the method for calculating an average and recording a range.

A cardboard is placed over each person's head and hung on the wearer's back so that the wearer can not find out what question is hanging on his or her back. Participants also receive a record sheet which has the numbers, "1, 2, 3, 4, 5," plus the words, "average" and "range," underneath these numbers. Each participant circulates around the room and asks five people to answer the question on his/her back. They write the answers on the record sheet and then calculate the average and range for the answers they have collected. The leader then asks all people with a certain color card to stand up and report their average and range scores. Everyone in the group helps calculate the average and range of the reported averages and ranges. Discussion takes place at this time; it allows the participants to make comments and the leader to build on the ACES goal.

Design Features:

The "Startling Statements" activity is designed to incorporate features which facilitate learning. Students who typically spend their days sitting in five 50-minute classes generally appreciate the fact that they can move around and talk to people during this exercise. Teachers find it quite easy to adapt the questions for use at various grade levels. They also use this technique for teaching mathematics content. For example, they can put math problems (instead of the startling questions) on the cardboards. Sometimes teachers use the questions/problems to refresh their students' memories; at other times they use this technique to teach new concepts or skills. Participants also respond positively to the mystery created by not being able to read the question for which they are collecting answers. By building curiosity in this way, the activity develops greater interest and involvement in the subject. The activity is also successful with those who are shy or anxious about math. The responses are not associated with the respondents; and before the question is revealed, individual answers are averaged into anonymity. Also, the mathematical/statistical nature of the responses makes them relatively impersonal.

Additional Activities:

Two additional activities are useful for introducing some math skills and demonstrating the importance of mathematics to most people's lives:

"Math Used in Jobs" and "Odds on You."

The "Math Used in Jobs" activity requires each participant to rank the ten math skills listed at the end of this summary. The leader discusses the skills and then asks which one is used most often in occupations. A rank of "1" indicates the skill used most often in jobs; "10" is given to the skill used the least. Then, participants move into groups of three to five people and draw on the resources of the group to rank the items a second time. The leader scores the group rankings by taking the absolute value of the difference between the correct ranking and the rank the group has given. All the differences are added to give the total score for each group ranking. When individuals score and compare their own rankings, they typically find that the group score(s) are better than any individual's score. Thus, this activity demonstrates both the importance of math skills to occupations and also that team work (cooperation, sharing, checking ideas) can produce improved work results.

The "Odds on You" activity requires a lengthy game structure. This game is outlined in the EQUALS handbook which is listed under the "RESOURCE" section of this summary. The game introduces probability and statistics with the distribution of life events (such as marriage). The events in the game occur as frequently as they statistically occur in actual life. Then these events are correlated to the probability of specific numbers occurring on dice. In addition to the mathematical concepts, the game helps participants to realize which factors in one's life can and which cannot be changed.

Restrictions:

Three activities were introduced and/or carried out during this workshop. Rights to these activities are reserved under a copyright by the Regents, University of California. Specific questions regarding use should be directed to EQUALS at the address that appears in the following paragraph.

Resource:

More extensive information and materials are available in the handbook, Use EQUALS to Promote the Participation of Women in Mathematics. A check for $5.00 payable to the Regents, University of California, should accompany an order. Send orders to Ms. Crissie Cagle, EQUALS, Lawrence Hall of Science, University of California, Berkeley, CA 94720, 415/642-1874.

WORKSHOP HANDOUT FOR
Mathematics: The Key to Success in Vocational Education

Startling Statements

1. How many women are among the 1,250 living members of the National Academy of Sciences?
2. Women are 52% of the U.S. population. What percentage are they of the U.S. engineering force?
3. What is the average yearly salary offer to a student with a 1980 bachelor's degree in petroleum engineering?
4. What is the average yearly salary offer to a student with a 1980 bachelor's degree in the humanities?
5. For a woman to make more than the median income of a man with 8 years of elementary school, how much education must she have?
6. Between 1950 and 1979, the number of male workers in the labor force increased by 35%. What was the corresponding figure for women?
7. What percentage of secretarial jobs are held by women?
8. What percentage of people working in apprenticeships in California in 1980 were women?
9. What percentage of working lawyers are women?
10. What percentage of employed doctors are women?
11. What percentage of employed electricians are women?
12. What percentage of employed architects are women?
13. Women are 98% of employed dental assistants; what percentage of practicing dentists are women?
14. What percentage of bachelor's degrees in engineering were awarded to women in 1977?
15. Women are 51% of secondary school teachers; what percentage are they of secondary school principals?
16. What percentage of school superintendents in California are women?
17. What percentage of college or university presidents are women?
18. What percentage of the world's income in received by women?
19. What percentage of the world's property is owned by women?

(Sources available from EQUALS)

WORKSHOP HANDOUT FOR
Mathematics: The Key to Success in Vocational Education

Math Used In Jobs

Fractions _____

Statistics _____

Calculators _____

Formulas _____

Decimals _____

Averaging _____

Ratio and Proportion _____

Estimation _____

Percent _____

Statistical graphs _____

* * * * * * * * * * * * * *

Fractions _____

Statistics _____

Calculators _____

Formulas _____

Decimals _____

Averaging _____

Ratio and Proportion _____

Estimation _____

Percent _____

Statistical graphs _____

WORKSHOP HANDOUT FOR
Mathematics: The Key to Success in Vocational Education

Answers to Startling Statements

1. 32 (2.6% of current membership)
2. 2.7% (f)
3. $23,832 for men ($23,928 for women)
4. $12,504 for women ($13,452 for men)
5. 4 or more years of college (a)
6. 136%
7. 99.3%
8. 4.6%
9. 12.8%
10. 10.7%
11. 1.3%
12. 6%
13. 4.6%
14. 4.5%
15. 1.7%
16. 1%
17. 6%
18. 10%
19. 1%

Answers to Math Used In Jobs

Math Skill	% of the jobs which use this skill	Rank
decimals	100%	1
calculators	98%	2
percent	97%	3
estimation	89%	4
fractions	99%	5
averaging	83%	6
statistical graphs	74%	7
ratio and proportion	77%	8
formulas	68%	9
statistics	65%	10

PROMOTING RACE AND HANDICAP EQUITY THROUGH VOCATIONAL EDUCATION SEX EQUITY PROGRAMS

CONSTANCE GIPSON

Sex Equity Coordinator
California Division of Vocational Education

Workshop Objective:

The purpose of this workshop is to help participants examine the reasons people exclude each other from groups, activities, jobs, etc. A series of activities increase the awareness of the internal stereotypes, or "tapes," we hold.

Procedures for Activity 1:

Hand out four 3" x 5" cards of different colors to each participant. Ask each person to write:

- two things they learned when they were growing up about white females on card color A;
- two things they learned about black females on card color B;
- two things they learned about black males on card color C; and
- two things they learned about white males on card color D.

Ask four people from the group to collect the cards and transcribe the statements onto four flip charts, (one for each group of statements). If possible, have a white female collect and transcribe all the cards with the white female statements, a black female collect and transcribe the black female statements, and so on. Have the transcribers read their lists to the group.

Results from Activity 1:

This activity is a powerful way of introducing the strength of the stereotypes, or tapes, that people grow up with. Comparison of the stereotypes for each racial group by sex also clearly shows who is given the most negative and most positive images and what subtle assumptions each group has to fight.

Procedures for Activity 2:

Divide participants into small groups of about five people each, and give each person the handout "Tapes People Play." Ask each group to choose one scenario from the sheet, and give them about five minutes to consider the tapes the characters in the scenario are responding to and possible solutions to the situation.

Then go through each scenario and record on a chalkboard or flip chart each group's responses. To conclude this activity, ask people to think for a minute about tapes they have become aware of or re-examined and what they might do differently as a result of this re-examination.

Sample Responses from Activity 2:

Some responses to one scenario in this workshop follow. The numbers correspond to the items in "Tapes People Play," which is reprinted at the end of this summary.

1. Tape: white men initiate all the good ideas

   women don't have any brains

   Solutions: Barbara should confront Ron

   Barbara should confront George

   Ron and George should be sent to a sex equity conference

7. Tape: white men always come on to black women

   Solutions: Don should bring up the subject in the office so it is clear it's a professional discussion

The following activity was presented by Carol Sturgis.

Procedures for Activity 3:

CAROL STURGIS

Ask participants to write down the names of real people they are working with at the state level by race, sex, and type of handicap. Then have them look at how many people they have listed in each category. Typically, people listed are white and have a physical, if any, handicap. Ask the group what can be done to change this situation to broaden the representation of women, people of color, and the disabled on staff and as consultants.

A second handout, "Strategies that Promote Race and Handicap Equity Through Vocational Education Sex Equity Programs" can be used to guide this discussion. It is reprinted at the end of this summary.

Results from Activity 3:

This activity moves people from simulated situations to looking at their own situations. Participants should acquire a positive intent to act on newly discovered inequities.

WORKSHOP HANDOUT FOR
Promoting Race and Handicap Equity
Through Vocational Education Sex Equity Programs

Tapes People Play

1. Barbara W. is a white female in the Program Evaluation Unit. The manager of Barbara's unit, Ron W., a black male, does not pay attention to her comments in staff meetings. George J., a white male, paraphrases her remarks five minutes after she has said them and receives approval for his comments by Ron. Barbara has learned that Ron has told the state director that George is a good thinker and should be promoted. The rest of the staff has told Barbara that Ron feels she is a silly female.

   What are the past tapes that Ron is responding to? What should Barbara do?

2. Frank R. is a black male who is the state director of vocational education. Frank had to fill the position of special assistant to the state director. The leading candidates were John R., a white male; Agnes J., an older female; and Judy M., a young black female. John R. was the better worker of the three candidates, while Agnes J. and Judy M. were on the same level of competence. Frank chose Agnes as his special assistant because he did not trust John. He also felt that it would appear that he was favoring Judy if he gave her the job. Now, six months later, Frank has discovered that Agnes cannot do the job.

   What tapes guided Frank's decision and what should he do now?

3. Jane is a black female who is responsible for the state plan. Jane shares a secretary, Alice, a white female, with Tim B., a white male responsible for the disadvantaged and Holly L., a white female who is responsible for the handicapped. Jane has noticed that Alice consistently puts her work at the bottom of the pile. Jane has more deadlines to meet than the other two consultants.

   What are the tapes Alice is responding to? What should Jane do?

4. Ralph J. is a white male in charge of the Research Coordinating Unit. Ralph has noticed that his counterpart, Jim, a white male responsible for Field Operations, always gives Bill R., a black male, the "lose-lose" assignments. Jim also makes it impossible for Bill to get any projects off the ground. Bill is getting a reputation of being an incompetent consultant.

   What tapes are guiding Jim? What should Ralph do?

5. Dan W. is a white male in the Support Services Section. Dan has been having trouble getting his work accepted by the Vocational Education Executive Staff. His counterpart, Sally B., a black female in the administration branch, has no trouble and is being promoted by the executive staff. Dan W. would like Sally to be his mentor. What should he do?

6. Armando, a Hispanic male, is a new member of the department. He has noticed that sex equity issues are given prominence in the department. Armando wants to be big fast so he asked the manager of the Support Services Section if he could be responsible for displaced homemakers. The sex equity coordinator, Betty, a white female, had been responsible for displaced homemakers and support services for women in nontraditional occupations. The State Director, Mike R., felt that Betty had too much responsibility and gave the displaced homemaker assignment to Armando.

   Aramndo immediately called a two-day statewide conference for persons operating displaced homemaker programs throughout the state. Without consulting Betty, he prepared the agenda for the conference. When Betty saw the agenda for the conference, she knew that it was completely off-target. Betty has tried to make gentle suggestions to Armando but he has not listened.

   What are Armando's tapes and what should Betty do?

7. Don C., a white male (single) has noticed that Dorothy R., a black female (single), needs help in relating to the boss. Don wanted to help Dorothy so while they were on a trip, he invited Dorothy to lunch. Dorothy refused in a very curt manner.

   What tapes prompted Dorothy's action and what should Don do?

8. Jack R., a white male from the Program Operations branch, would like to get his new form approved by the department Data Acquisition Unit (located on the fifth floor). Jack has talked to all of the white females in the department to elicit their support. Jack has never spoken to the black female in the group. After three trips to the fifth floor, Jack felt he was not making any headway. After his last trip, he discovered that the black female was the boss. What should he do?

9. Linda S. is a beautiful Asian female, aged 29. She is a new consultant with the Vocational Education Unit. Her boss, Tom C., has a former colleague, Tim H., who will be coming to their state. Tom would like Linda to escort Tim around the state for a week to show him the state's exemplary projects. Tom is trying to impress Tim because Tim could recommend him to become the state director of another state. He has told Linda that if he gets the job, he will take her with him as his assistant. Linda does not want to go on the trip, but she does not want to displease her boss.

   What should Linda do?

WORKSHOP HANDOUT FOR
Promoting Race and Handicap Equity Through
Vocational Education Sex Equity Programs

Strategies That Promote Race and Handicap Equity Through Vocational Education Sex Equity Programs

1. Presentations by the coordinator.

   Address race and handicap. Tell it from your point of view. Personalize the issues.

2. Workshop presenters.

   Use persons from minority groups and the handicapped.

3. State advisory committees.

   Use minorities and handicapped on all advisory committees — not just the disadvantaged or handicapped committees. Use handicapped people from groups other than those who are confined to wheelchairs — the blind and the deaf.

4. Work with other units.

   Work with the Special Education Unit. Check the media they produce for race and sex bias. Co-sponsor career education workshops with the Career Education Unit that address sex, race, and handicap bias and stereotyping.

5. Role models.

   Encourage local educational agencies to use role models that are minorities or handicapped. Put out a directory that includes minority or handicapped groups where role models can be found.

6. Media.

   Infuse race and handicap bias into sex equity media. Use collages to show race, sex, and handicap on the same poster. Show minority males in traditional roles as well as nontraditional roles. Show handicapped persons in traditional roles as well as nontraditional roles.

7. Sponsor workshops for minority students.

8. Develop criteria for proposals that address sex, race, and handicap bias.

9. Operate from a knowledge base.

   Suggestions for reading: Black Education, Its Myths and Its Tragedies by Thomas Sowell

   "Black Enterprise

10. Utilize minority and handicapped entrepreneurs.

11. Provide workshops that discuss race and handicap bias.

    Have staffs to review the checklist for books published by the Council on Interracial Books for Children.

12. Bring people together who would ordinarily not know each other!

Things to Keep in Mind

1. Everyone has a different comfort level.
2. Usually, the more we know a group, the less we fear them.
3. Class is a factor.
4. Turf is a factor.
5. Don't forget the white male who is over 40 and is not handicapped. He's a part of the team!
6. Dont' forget the white disadvantaged student. They're special, too!

HOW TO FUND, IMPLEMENT AND MONITOR EFFECTIVE STATE VOCATIONAL EDUCATION SEX EQUITY PROGRAMS

DEBORAH J. DILLON

Project Director
AWARE WEST

Workshop Objective:

The objective of this workshop is to share successful strategies for (1) negotiating funds for sex equity programs, (2) establishing procedures for funding sex equity projects, and (3) developing effective mechanisms for documenting their progress.

Workshop Procedures:

This workshop encourages participants to describe the strategies they use in their states to secure and disperse funds for sex equity programs. The workshop also provides a time for sex equity coordinators to discuss the barriers they have experienced during this process.

Negotiating a Budget:

Several sex equity coordinators, who participated in this workshop, have negotiated relatively large budgets for their sex equity programs. All say the key to this successful negotiation is a thorough, working knowledge of the Vocational Education Amendments. Studying the law provides a knowledge of the funding provisions for sex equity, both mandated and optional (e.g., displaced homemaker programs, support services for women, sex bias grants, etc.). This knowledge enables a coordinator to plan and negotiate a budget for programs in these categories.

The next step in negotiating a budget is to analyze the equity categories described in the law. Then one should determine how these legal categories fit into the state agency's priorities

for vocational education. With this information, the coordinator can propose sex equity programs that are tied to both state and vocational education priorities.

In summary, workshop participants listed these steps as critical for negotiating a state sex equity budget:

- Develop a thorough working knowledge of the Vocational Education Amendments.
- Know your state agency's priorities for vocational education.
- Determine critical issues for vocational education.
- Tie sex equity programs to state vocational education priorities.

Procedures for Funding Projects: A second major topic of discussion in this workship was procedures by which various states distribute funds for sex equity projects. Two procedures for funding were discussed: the grant process and the RFP (request for proposal) process. Typically, grants are locally initiated and based on local needs while RFPs are more prescriptive and based on establishing state/agency goals. Since most participants want to increase control over the direction and results of their projects, the majority of this portion can focus on how different states organize RFPs.

One state cites the importance of being extremely specific in establishing the requirements for a project in order to obtain the exact kind of project needed or expected. The RFP should establish specific goals and minimum standards for projects, as well as special consideratons above and beyond the minimum standards. An actual example from one state's RFP is included at the end of this summary.

Another state requires each project to have an advisory committee consisting of people who are influential in the state, since a political board must vote on the funding of each proposal.

Mechanisms for Documentation: Because it is difficult to evaluate the impact of sex equity projects, it is important to establish methods to assure adequate documentation. The

easiest procedure is to require quarterly reports from all funded projects that detail aspects of the project such as community involvement, press coverage, CETA coordination, links with local industry, speeches or presentations made around the state, etc. All of this information will assist the state coordinator to assess the overall impact of sex equity programs throughout the state. Individual project successes are good public relations for the state agency, and will facilitate successful negotiation of future sex equity budgets.

WORKSHOP HANDOUT FOR
How to Fund, Implement and Monitor Effective State
Vocational Education Sex Equity Programs

Example of RFP Requirements

GOAL 10

GOAL STATEMENT 2.2.1

Plan and implement a technical assistance program for achieving Sex Equity in Vocational Education.

MINIMUM REQUIREMENTS

1. The intent of this goal is to provide ongoing technical assistance for prohibiting sex discrimination and achieving sex equity in vocational education.

2. In planning the technical assistance program, the applicant must design a technical assistance program that will address the following considerations:

   - Laws affecting sex discrimination in vocational education.

   - Skill building on how to prevent sex discrimination in vocational education.

   - Action planning for the implementation of sex equity.

   - Evaluating the effectiveness of the technical assistance program.

3. Priority must be given to local education agencies requesting technical assistance to meet the sex discrimination portions of the Vocational Education-Office for Civil Rights Guidelines.

4. The applicant must describe minimum performance standards for the proposal. The performance standards must be delineated in the project goal description.

SPECIAL CONSIDERATIONS

1. Due to the nature of this project, the staffing pattern is extremely critical. In order to achieve the minimum requirements, the following considerations mus must be included in the project staffing:

   - At least one person must be employed half-time to conduct the technical assistance program. The following expertise should be included in the project staffing:

     - Knowledge of in-service training
     - Knowledge of vocational education
     - Knowledge of sex equity.

2. Two (2) projects will be funded under this goal. One project will be funded to serve: educational institutions in Maricopa County and one project will be funded to serve educational institutions in Pima County. The applicant

must, therefore, develop a strategy that is applicable to serving the appropriate county.

3. Multi-year funding for this goal is considered appropriate; therefore, the Arizona Department of Education reserves the right to continue the work without rebidding this effort in FY 82. Multi-year funding is contingent upon the availability of funds and successful completion of previous work.

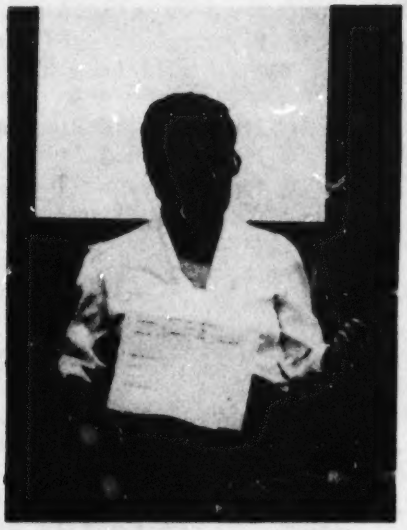
TIME FRAME

July 1, 1980 through June 30, 1981.

FUNDING

Maximum Funding: $50,000 — Two (2) Projects.

ERIC



SURVIVAL STRATEGIES FOR POSTSECONDARY VOCATIONAL EDUCATION PROGRAMS

CAROL ELIASON

Director, Center for Women's Opportunities
American Association of Community and Junior Colleges

Workshop Objective:

The purpose of this workshop is to assist participants in adopting a systems approach to exploring funding sources for their sex equity programs.

Existing System Environment:

A systems approach defines the existing environment/situation in which a program operates. The current situation indicates a trend away from support for social programs. Over the years, many programs have developed a dependance on a sole funding source whose mission is directly and obviously related to the program's needs. Using this single approach, the Office of Vocational and Adult Education would fund all vocational programs, the Women's Educational Equity Act Program would fund all women's education programs, the National Science Foundation would fund all science and math programs, etc. With current inflation, budget cuts, and decreasing commitment to social programs, this approach is no longer feasible.

Alternative Approaches:

A systems approach would devote time and care to thinking creatively about other and less obvious methods of funding. If people develop new strategies for analyzing the resources and carefully match them to needs, they should find that funding is available. Rather than looking to one agency for funding of an entire multi-faceted program, it can be productive to match each component with a different source of support. For example, a program providing services to women who are geographically isolated might receive funds from the

Department of Transportation for trucks to drive through rural areas, from local cable-TV for public service announcements, and from a local industry for a toll-free telephone hot line. Similarly, a program providing childcare for teenage parents enrolled in a vocational training class may find monetary support as well as human resources from the PTA, Scouts, United Way, trade unions, coop programs and consumer/homemaking agencies. Funds for the handicapped come not only from the Bureau for Educationally Handicapped, but also from Title XX social security and fund-raising organizations such as Easter Seals.

Workshop Procedures:

A related point to this funding approach is the importance of networking. Under the current conditions, networking becomes more critical than ever before. Collaborating with groups doing similar work means broadening one's base of constituents, consolidating needs, increasing political and financial contacts, and strengthening program planning. For new programs, it become imperative to collaborate with an organization that has a track record in the field and contacts with funding sources.

Planning Matrix:

The workshop facilitator should ask participants to:

- List the special populations their programs serve
- Brainstorm ways to meet the needs of these populations
- Plan for the future by identifying all possible funding sources for these speical populations
- Utilize the "Planning Matrix: Sex Equity & Women's Programs" (reprinted at end of summary) to focus the workshop discussions.

Funding Sources:

The workshop leader summarized her approach to program survival in this way:

- Learn who will fund programs and activities that meet the needs of the population you are working with.
- Be creative in approaching agencies other than OVAE for money, equipment, evaluation assistance, etc. A list of some sources is included at the end of this summary.

- Learn the timetables for funding sources other than OVAE
- Convene a caucus of groups who work with the same population to plan strategies
- Politicize yourself and your staff by learning the national as well as local issues surrounding vocational education and sex equity and knowing who the major players are.

WORKSHOP HANDOUT FOR
Survival Strategies for Postsecondary
Vocational Education Programs

Funding Sources*

Title I, Higher Education Act	Grantee: Daytona Beach Women's Center
Fund for the Improvement of Post-secondary Education	They welcome collaborative efforts
Adult Basic Education Grants	Look for service to target populations. Grantee: Enterprise J.S., Alabama
Women's Educational Equity Act	Emphasize product development, broad dissemination & replication
Title XX of the Social Security Act	Various interpretations regarding training women. Grantee: Okaloosa Walton C.C.
Mental Health/Mental Retardation Funds	Contracts for independent living skills programs. Grantee: Portland C.C. at Sylvania
Older Americans Act, Title IV or Discretionary Monies	For training advocates and outreach personnel
Consumer Education	Funds training in growth occupations. Grantee: Iowa Northern C.C.
Vocational Education Act of 1976	Apply to State Dept. of Education, Office of Sex Equity Coordinator
Vocational Rehabilitation Demonstration Projects	Special disability grants. Grantee: Florida's Independent Living Center
Foundation funds	Identify local and regional foundations in Foundation Directory
Corporate gifts	Can provide equipment, loaned personnel, operating capital
Corporate contracts	Training, retraining. San Antonio C.C. District & Sargeant Reynolds C.C.

*Condensed from Center for Women's Opportunities list for two-year postsecondary institutions who provide occupational education/services for adult women.

United Way	Requires 18 - 24 months lead time
Challenge grants	Available from alumnae, corporations, trusts
Collaborative arrangement	Can provide services from community schools, YWCA's, Girl Scouts, etc.
Umbrella funding	Combine "hard" institutional funds to cover staff with "cost recovery" monies

* * * * * * * * * * * *

Planning Matrix: Sex Equity & Women's Programs

(Population to be served:)

Survival Strategies	Networks/Contacts	Timetable	Organizational Tasks
Funding Options			
Lobbying - Policy Change			
Legislation			
Staffing			
Collaboration/Infiltration			
Curriculum/Program Development			
Evaluation			
Public/Community Relations			
Other			

THE POLITICAL, SOCIAL AND ECONOMIC FACTORS AFFECTING THE PROGRESS OF SEX EQUITY

BYRL N. SHOEMAKER

Executive Director, Vocational Education
Ohio State Department of Education

Workshop Objective:

The purpose of this workshop is to describe, through the process of brainstorming, the political, social, and economic factors that support or oppose the progress of sex equity in vocational education.

Workshop Results:

A summary of information in each of these three domains follows.

Political — Positive Effects:

Some political factors that have a positive effect on the progress of sex equity:

- Growing political awareness and sophistication among women and women's organizations
- Growing participation of women in election campaigns
- Inclusion of sex equity issues in campaigns because of the large number of women voters
- Growing number of networks that support sex equity, giving a broader base of support
- Support of community-based organizations and some unions
- Laws prohibiting sex discrimination

Political — Negative Effects:

Some political factors that have a negative effect on the progress of sex equity:

- Conservative political climate, and ascendancy of numbers and influence of conservative organizations
- Reduction of budgets for social programs in conservative administration
- Lack of support for nondiscrimination laws
- Probable drastic reduction in financial support for social programs with proposed state block grants, since support for social movements has historically come from the federal level

Economic — Positive Effects:

Some economic factors that have a positive effect on the progress of sex equity:

- Large number of women moving into the work force for survival (as opposed to working to supplement an income to raise a standard of living)
- Release of women from homemaking tasks, through technology, which increases their availability for jobs
- Reduction of sex-biased requirements for jobs, change of occupational safety laws, and increased use of technology result in greater occupational opportunities for women.

Economic — Negative Effects:

Some economic factors that have a negative effect on the progress of sex equity:

- Cuts in state job training budgets requires employers to make an initial monetary investment in training
- Costs for remodeling facilities in occupations that were previously single-sex
- Shortage of workers in traditional, low-paying female occupations which can only be resolved by raising salary levels
- Rise in unemployment diminishes support for social issues

- Some women are willing to go into low-paying, low-skill jobs that do not require training (especially older women, displaced homemakers).

Social — Positive Effects:

Some social factors that have a positive effect on the progress of sex equity:

- An underlying national philosophy of freedom of choice
- Changing values and lifestyles for men and women make it easier for women to enter the labor force and remain in it longer
- Growing number of re-entry women
- Growing number of women moving into non-traditional fields
- Increased availability of continuing education
- An emphasis on the importance of self-fulfillment through work
- Shared responsibilities of women and men for home and child care
- Diminishing necessity for men to carry the total economic responsibility for the family, resulting in a reduction of some stress
- Growing concern for individual growth and development.

Social — Negative Effects:

Some social factors that have a negative effect on the progress of sex equity:

- Increase in the divorce rate and in the number of single parents is seen as being caused by the sex equity movement
- Results of some studies that show that children of single parents have greater problems
- Lack of government and private support for childcare

THE EFFECTIVE USE OF AVAILABLE STATE VOCATIONAL EDUCATION DATA

BYRL N. SHOEMAKER

Executive Director, Vocational Education
Ohio State Department of Education

Workshop Objective:

The purpose of this workshop is to generate ideas for promoting programs for sex equity in vocational education by using persuasive data.

Workshop Procedures:

Participants use brainstorming to develop responses to three questions:

- What data are necessary to "sell" the idea of sex equity in vocational education?
- What data are necessary to evaluate the progress and success of sex equity in vocational education?
- To whom should these data be disseminated in order to have the greatest impact?

General Information:

Information should be gathered to tell students why they should enroll in vocational education in a nontraditional field; to explain to employers why they should establish policies of affirmative recruitment; to convince parents to accept and support the notion of employment in nontraditional fields; etc. Data on points such as the following will be useful in selling sex equity to these groups:

- Federal and state requirements for employing women and minorities in specific occupations

- The number of families that are supported by a single parent/female head of household
- The difference in salaries between nontraditional and traditional occupations
- The large range of employment opportunities in nontraditional occupations
- The impact on school enrollment of student participation in nontraditional vocational education classes
- The qualities and skills of people with vocational education training who can fill entry-level, nontraditional jobs.

Evaluation Data:

Certain facts should be collected to document the impact of vocational education sex equity programs, both in order to convince people of their value and to determine which areas must receive greater emphasis. Evaluation data on state and national levels on points such as the following will be useful for these purposes:

- The increase or decrease of student enrollment in vocational education classes that are nontraditional for their sex
- Change in attitudes towards sex equity of teachers, counselors, and administrators
- Change in level of response by LEAs (local educational agencies) and other local groups to sex equity RFPs (requests for proposals)
- The starting wage for women and men completing vocational education programs
- The decrease or increase in the number of women who are unemployed
- The number of people placed in jobs nontraditional to their sex after training in a vocational education program
- Follow-up reports from students and employers regarding the advantages and disadvantages of hiring/working in jobs that are nontraditional.

Targets for Dissemination:

Once the data are collected, information must be widely disseminated in order to raise public

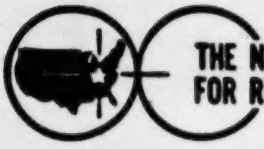
awareness of the importance and impact of sex equity in vocational education and to convince people to support sex equity programs. Groups such as the following should receive this information:

- state directors of vocational education
- State boards of education
- state superintendents of education
- parent/teacher organizations
- teachers organizations
- area vocational coordinators working with industry
- chambers of commerce
- vocational organizations
- concerned advocate organizations
- state vocational education advisory councils
- local vocational education advisory councils
- joint apprenticeship committees
- radio and television stations
- newspapers
- women's commissions

APPENDIX A

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

American Association of Community and Junior Colleges



THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

VOCATIONAL EDUCATION: WOMEN AND MEN IN THE REINDUSTRIALIZATION OF AMERICA

Sponsored by the
U.S. Department of Education
Office of Vocational and Adult Education

April 8-10, 1981
Columbus, Ohio

Matilda Butler, Principal Investigator, FWL
Lisa Hunter, Conference Coordinator, FWL
Carol Eliason, Subcontract Principal Investigator, AACJC
Lucille Campbell-Thrane, Subcontract Principal Investigator, NCRVE
Louise Vetter, Subcontract Director, NCRVE

We would like to thank the following people for their help in planning and conducting this conference:

Planning Committee

Nancy Evans, Coordinator, Ohio
Gerald Freeborne, Director, New York
Don Gentry, Director, Indiana
Connie Gipson, Coordinator, California
Karen McDowell, Coordinator, Nevada
Monty Multanen, Director, Oregon
Loydia Webber, Coordinator, Georgia

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Conference Facilitators

Carol Eliason
Parki Hoeschler
Lisa Hunter
Maureen Kelly
Dorothy Miller
Rodney Spain
Carol Sturgis
Louise Vetter

Preparation of the draft version of
Compilation of Exemplary Sex-Fair Programs

Kendra Bonnett
Jean Marzone
Michael Yearout

AGENDA

Wednesday, April 8

9:00 a.m. - 9:30 a.m.	Welcome and Conference Overview Steven J. Gyuro, Lucille Campbell-Thrane, National Center for Research in Vocational Education Matilda Butler, Far West Laboratory
9:30 a.m. - 10:30 a.m.	Reindustrialization: A History of Women at Work in America Mary Rothschild, Arizona State University
10:30 a.m. - 10:45 a.m.	Break
10:45 a.m. - 12:30 p.m.	Assessment of Needs and Strategies for Sex Equity in Vocational Education
12:30 p.m. - 1:15 p.m.	Lunch (catered)
1:15 p.m. - 2:15 p.m.	Reindustrialization: Some Trends for the 1980s Leonard Lecht, Human Resources Consultant
2:15 p.m. - 3:45 p.m.	Technical Assistance Workshops (choose one) • Mathematics: The Key to Success in Vocational Education Kay Gilliland, EQUALS, University of California • Promoting Race and Handicap Equity Through Vocational Education Sex Equity Programs Connie Gipson, Coordinator, California Carol Sturgis, AACJC
3:45 p.m. - 4:00 p.m.	Break
4:00 p.m. - 5:00 p.m.	• Critique of Compilation of Exemplary Sex-Equity Programs • Viewing of AV Materials
5:30 p.m. - 7:30 p.m.	Reception at Holiday Inn

Thursday, April 9

9:00 a.m. - 12:00 noon	The State Planning Perspective
9:00 - 9:30	• Mentoring Auction Lucille Campbell-Thrane, Louise Vetter
9:30 - 10:00	• The Planning Perspective Marie Mayor, OVAE
10:00 - 10:45	• Implementing State Planning Charlotte Carney, Coordinator, Florida Nancy Evans, Coordinator, Ohio Byrl Shoemaker, Director, Ohio Jacqueline Walker, Coordinator, New Jersey
10:45 - 11:00	Break
11:00 - 12:00	• Small-Group Discussions
12:00 noon - 1:00 p.m.	Lunch (catered)
1:00 p.m. - 2:45 p.m.	The Evaluation Perspective Matilda Butler, Far West Laboratory
2:45 p.m. - 3:00 p.m.	Break
3:00 p.m. - 4:30 p.m.	Technical Assistance Workshops (choose one)
	• How to Fund, Implement and Monitor Effective State Vocational Education Sex Equity Programs Debbie Dillon, AWARE West
	• Survival Strategies for Postsecondary Vocational Education Carol Eliason, AACJC
	• The Political, Social and Economic Factors Affecting the Progress of Sex Equity Byrl Shoemaker, State Director, Ohio
4:30 p.m. - 5:00 p.m.	• Critique of Compilation of Exemplary Programs
	• Viewing of AV Materials

Friday, April 10

9:00 a.m. - 10:15 a.m.	Reindustrialization: The Political Perspective Panel
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 12:00 noon	Technical Assistance Workshops (choose one) • The Effective Use of Available State Vocational Education Data Byrl Shoemaker, State Director, Ohio • Promoting Race and Handicap Equity Through Vocational Education Sex Equity Programs Connie Gipson, Coordinator, California Carol Sturgis, AACJC • How to Fund, Implement and Monitor Effective State Vocational Education Sex Equity Programs Debbie Dillon, AWARE West
12:00 noon - 12:30 p.m.	Lunch (catered)
12:30 p.m. - 1:30 p.m.	Reindustrialization: The Business Perspective Madeline Hemming, U.S. Chamber of Commerce
1:30 p.m. - 2:00 p.m.	Program Evaluation and Wrap-Up
2:00 p.m. - 3:00 p.m.	Networking Meetings

Bus leaves Holiday Inn for Center	8:10 a.m. and 8:30 a.m., April 8, 9, 10
Bus leaves Center for Holiday Inn	5:00 p.m. and 5:20 p.m., April 8, 9 only

APPENDIX B

CONFERENCE PARTICIPANTS AND SPEAKERS

Robert Carter, Alabama
Ann Turnham Smith, Alabama
Debbie Dillon, Arizona
Mary Rothschild, Arizona
Janice Gresham, Arkansas
Matilda Butler, California
Kay Gilliland, California
Connie Gipson, California
J.C. Levendowski, California
Pat Goggins, Colorado
Carole Aiken, Connecticut
Carol Mayhew, Delaware
Carol Eliason, District of Columbia
Paul Geib, District of Columbia
Madeleine Hemmings, District of Columbia
Harriet Maderis, District of Columbia
Marie Mayor, District of Columbia
Carol Sturgis, District of Columbia
Charlotte Carney, Florida
Loydia Webber, Georgia
Samson Shigetomi, Hawaii
Barbara White, Hawaii
Elmer Bittelston, Idaho
Lianne McAllister, Idaho
Jane Adair, Illinois
Sandy Eells, Illinois
Nancy Moller, Indiana
Beverly Gillette, Iowa
Corena Mook, Kansas
Bettie Tipton, Kentucky
Joy Joseph, Louisiana
Diane Paige, Maine
Jill Moss Greenberg, Maryland
Addison Hobbs, Maryland
Judy Taylor, Massachusetts
Sara Lincoln, Michigan
Donna Boben, Minnesota
Shirley Haggard, Mississippi
Georganna Hargadine, Missouri
Sally Moore, Montana
Marge Hatheway, Nebraska
Carol Bossert, Nevada
Jerry Holloway, Nevada
Nishma Duffy, New Hampshire
Jacqueline Walker, New Jersey
Janice Hightower, New Mexico
Norma Milanovich, New Mexico
Mary Ann Etu, New York
Carol Jabonaski, New York
Leonard Lecht, New York
Doris Jacobs, North Carolina
Nancy Thorndal, North Dakota
Nancy Evans, Ohio
Byrl Shoemaker, Ohio
Candy Gray, Oklahoma
Jacqueline Cullen, Pennsylvania
Robert Edwards, Pennsylvania
Terri Reed, Pennsylvania
Carmen River, Puerto Rico
Linda Greenwood, Rhode Island
Annie Winstead, South Carolina
Larry Lyngstad, South Dakota
Ella Stotz, South Dakota
Cecil Yvonne Wright, Texas
Barbara Hales, Utah
Noreen O'Connor, Vermont
Karen Cary, Virginia
Homer Halverson, Washington
Beverly Postlewaite, Washington
Mary Thompson, Wisconsin
Barbara Bitter, Wisconsin
Verlyn Velle, Wyoming